

March 31, 2023

GLOBAL MARKETS PERFORMANCE REPORT

FT Wilshire 5000 - Sector, Style, Factors

Global Equities and Sectors

Fixed Income and FX

Alternatives



IN THIS REPORT

FT Wilshire Indexes Insights

- The Q1 return of 7.3% was delivered in 3 distinct phases—initial goldilocks optimism, then bank contagion fears followed by a late March rebound
- Large cap growth style significantly outperformed value in Q1, driven by the strong recovery in the Technology sector

+7.3%

FT Wilshire 5000
return in Q1

+15.1%

Growth Style
outperformance
versus Value in Q1

See [PAGE 4](#)

Global Equities

- European equities have delivered the strongest returns across the regions in Q1
- Despite bank contagion fears the US outperformed the World ex US in Q1 benefiting from the superior contribution from the Technology sector

+2.6%

Return of the World
index in March

+6.6%

Return of the World
index in Q1

See [PAGE 16](#)

Fixed Income, Foreign Exchange

- A big rotation in US interest rate expectations saw both US 10yr and 2yr bond yields decline in Q1
- The US 10-2yr yield curve although still inverted saw a steepening in Q1
- US dollar depreciated by -1% in Q1

-40bps

Decline in US 10-
year bond yield in
Q1

-39bps

Decline in US 2-year
bond yield in Q1

See [PAGE 28](#)

Alternatives

- Gold rallied in Q1 reflecting its safe haven status and its relationship to declining US real yields
- FT Wilshire Digital Assets Index continues to recover YTD from the 2022 selloff
- US Self Storage REITS have performed strongly YTD

+8.9%

Rise in Gold price in
Q1

+62.3%

FT Wilshire digital
assets index return
YTD

See [PAGE 33](#)

Multi-Asset Class returns: Bank contagion fears in March saw fixed income and gold outperform equities. US growth equities deliver strongest returns in Q1.

Chart 1: March witnessed a sharp rise in market volatility driven by bank contagion fears triggered by the collapse of SVB and Credit Suisse. Gold and bonds benefitted from the risk off trade. However, US growth stocks posted positive returns while US small cap and REITS declined.

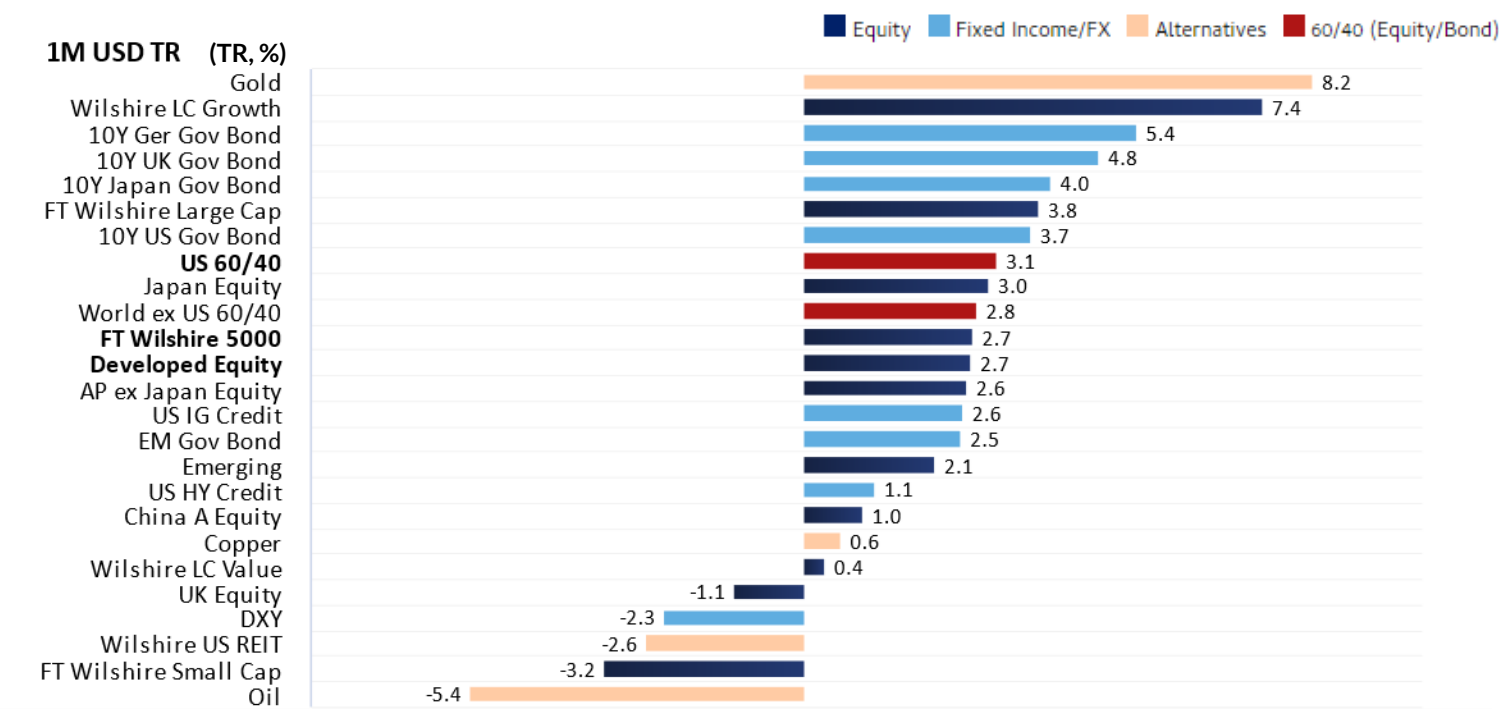
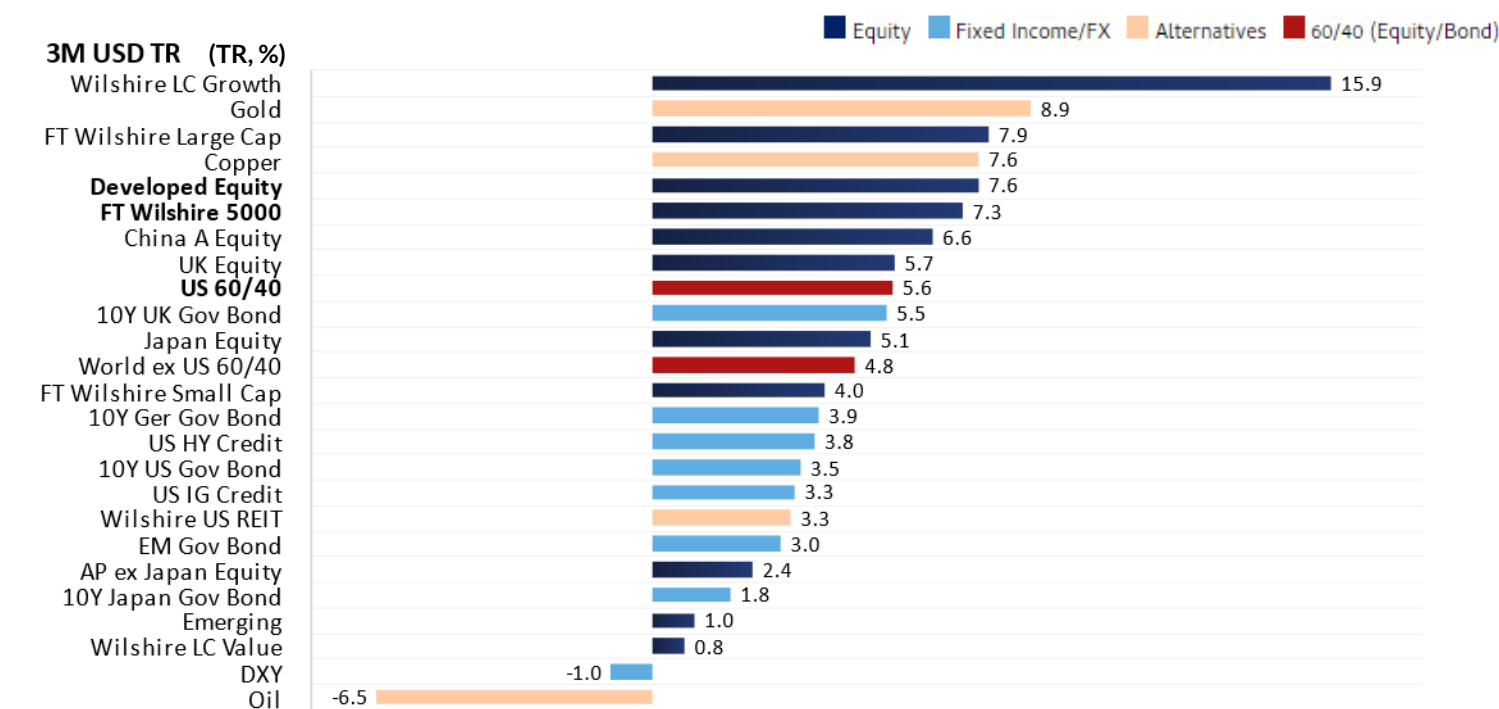


Chart 2: Despite the rise in volatility in March, Q1 saw both equities and fixed income deliver positive returns lead by US growth stocks. Oil and the dollar declined.



FT Wilshire 5000 Index Insights

1

+2.7%

The return of the FT Wilshire 5000 in March

2

+7.3%

Appreciation of the FT Wilshire 5000 in Q1

3

+15.1%

Outperformance of Growth style versus Value in Q1

4

+27.6%

Performance of the Technology sector in Q1

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- 07 Sector performance
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- 14 Dispersion
- 15 Risk/return analysis

Q1 returns were a function of 3 phases—A goldilocks rally followed by a sharp decline driven by concerns over both a hawkish Fed and bank contagion and finally a late March rally as the ‘fear trade’ dissipated.



Source: Wilshire, FactSet and Refinitiv. Data as of March 31, 2023

Wilshire Advisors LLC - Performance Report (March 2023)

FT Wilshire 5000 Key Observations: Bank contagion fears ease in late March as strong technology gains help large cap and growth finish the quarter on a high

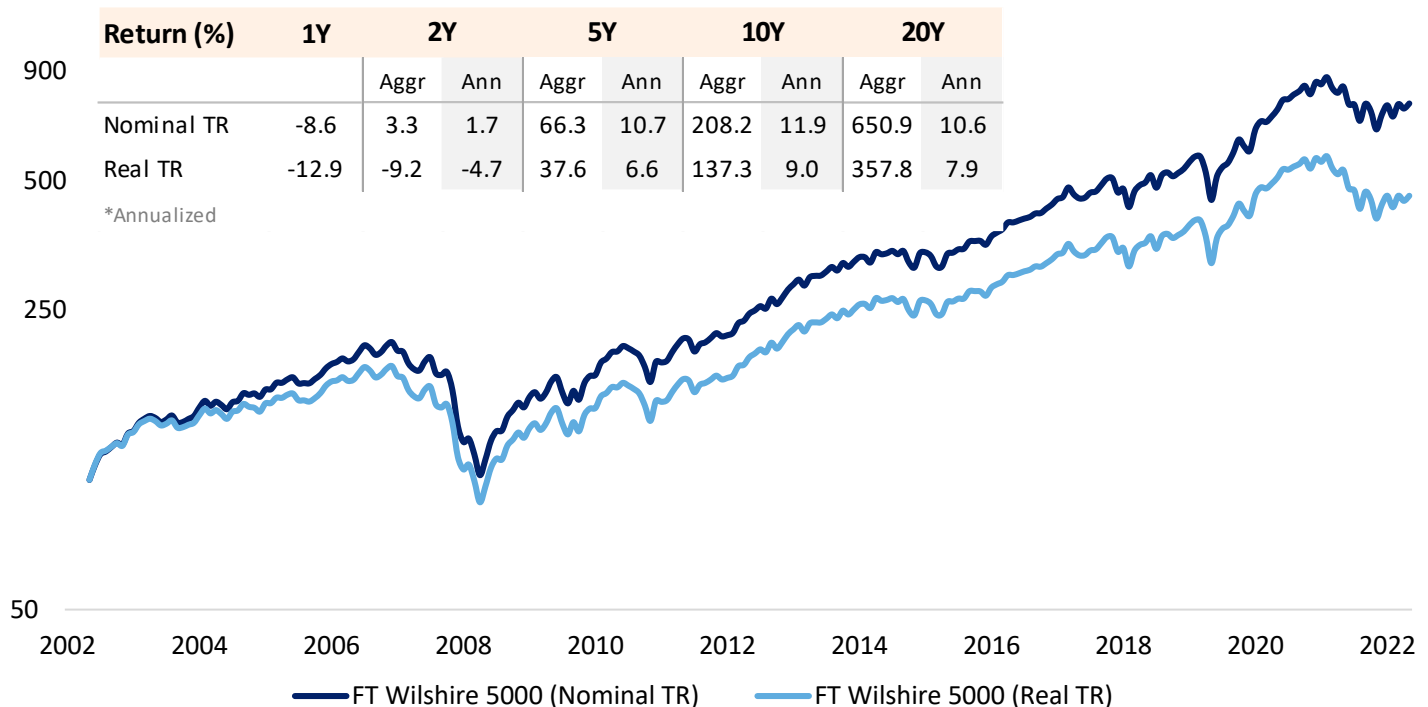
Market snapshot

- ◆ The FT Wilshire 5000 rose 2.7% in March and posted a return of 7.3% in Q1 2023 ([page 4](#))
- ◆ FT Wilshire Large Cap Growth continued to comfortably outperform Large Cap Value in Q1 2023. Large cap significantly outperformed small cap (page 9)
- ◆ Technology and digital information were strong outperformers in Q1 and were the main contributors to FT Wilshire 5000 returns ([page 8](#))
- ◆ Larger contributions from digital info and technology sectors and smaller negative contributions from financials were the main drivers behind LC growth outperformance vs LC value, and large cap vs small cap ([page 10](#))
- ◆ Within the Pure factor space Pure Quality was the standout performer in Q1 2023 ([page 12](#))

Key US Economic data in Q1 2023

- ◆ The collapse of Silicon Valley Bank (SVB) leads to contagion fears causing sharp sell-off in wider banks sectors both in the US and globally
- ◆ Markets initially respond to contagion fears by significantly lowering US interest rate expectations, having moved higher at the start of the year on the back of strong economic data
- ◆ Year end 2023 US market interest rate expectations fall to 4.3% (as at 31 Mar), down from 5.6% at the start of March. Market now sees rate cuts by the end of 2023
- ◆ Fed raises interest rates by 25bps to 5% and maintains Y/E 2023 rate projection at 5.1%.
- ◆ US CPI inflation eases back to 6%. The Fed's preferred measure of inflation, Core PCE, falls to 4.6%
- ◆ ISM services index eases back marginally but remains firmly in expansion territory at 55.1

Chart 1: FT Wilshire 5000 Real vs nominal total return - despite the 2022 drawdown, US equities have still delivered a 9.0% real annualized return over the last 10 years



Perspectives : US growth style benefits from lower real yields, US bank stocks underperform regional peers and the US \$ impacted by interest rate

Chart 1: US Technology and Growth stocks have rallied strongly following a peak in US real yields

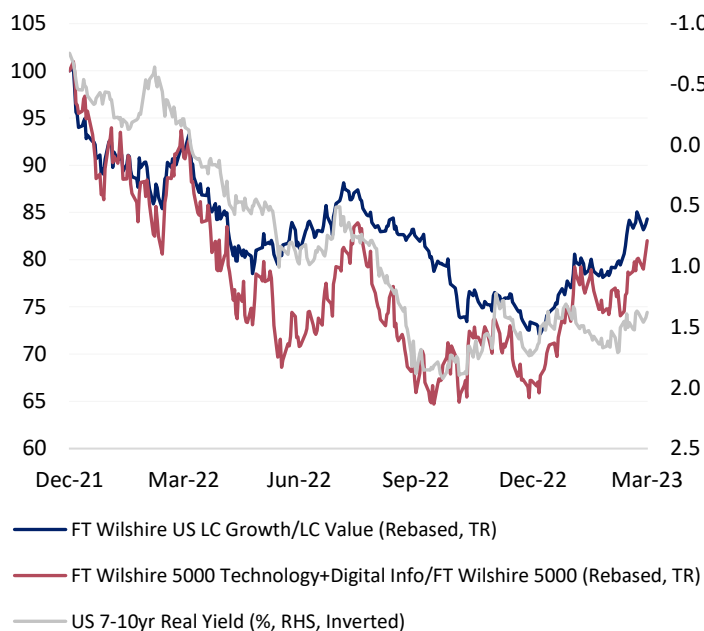


Chart 2: US banks have seen the largest relative decline across the regions in Q1

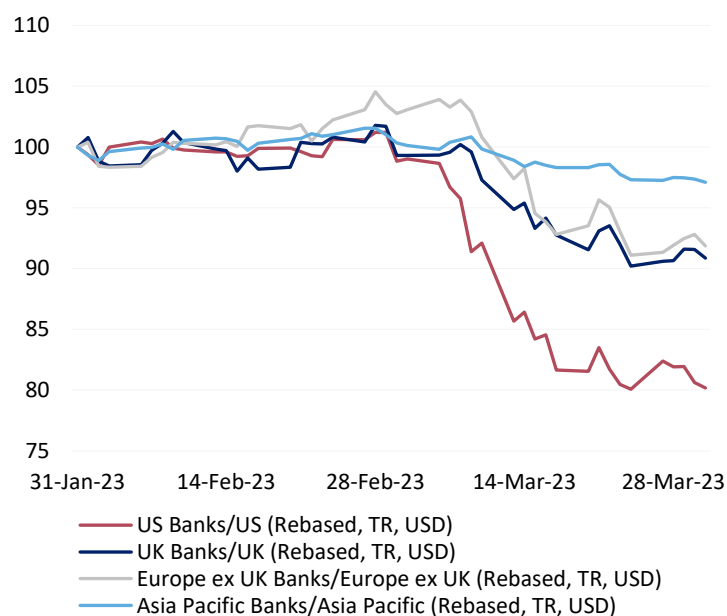


Chart 3: Q1 has seen 2 year yields fall sharply in response to bank contagion concerns.

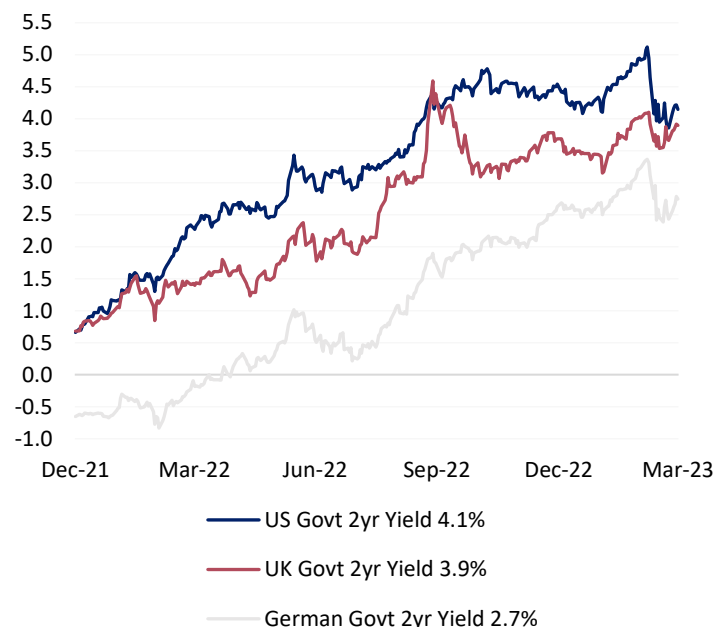
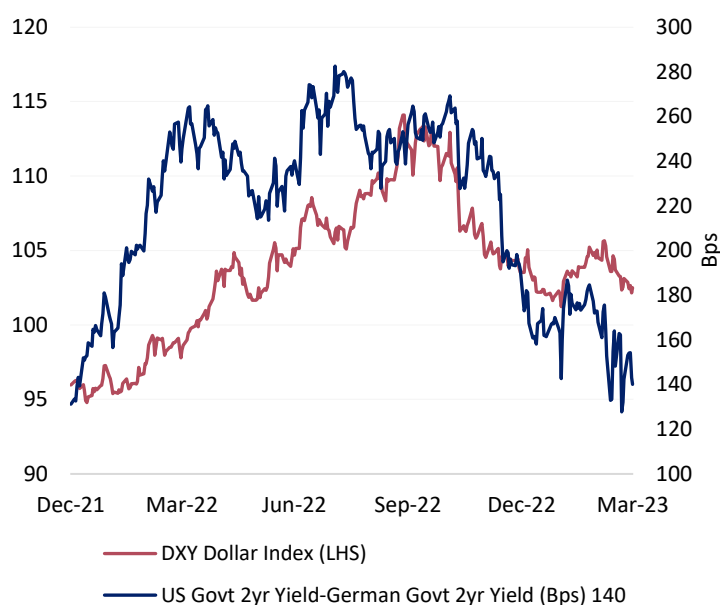


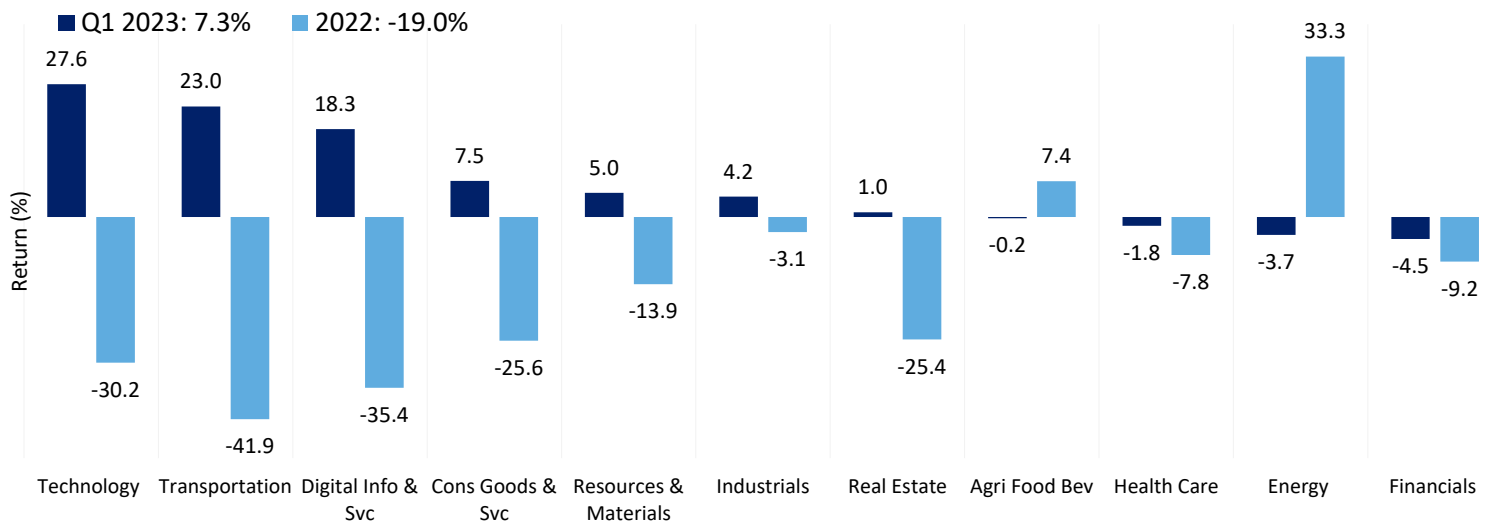
Chart 4: The narrowing of US v German (EZ) interest rate differentials has coincided with the weakening of the dollar



Sector performance: In a reversal of the 2022 performance profile, Q1 saw the technology, transportation and digital information sectors outperform

Despite the risk off tone in the latter part of Q1 US technology, transportation and digital information sectors posted strong returns over the quarter. This marks a reversal from the sector return profile witnessed last year.

FT Wilshire 5000: Returns Q1 2023 vs 2022 (USD, TR, %)



Highlighting differences in sector exposure: Large cap are heavily exposed to the technology and digital info sectors while small cap are more exposed to the cyclical industrials, resources and real estate sectors. Value is skewed to energy and financials while growth is more exposed to tech and consumer goods.

Q1 2023	FTW 5000		Large Cap		Small Cap		Micro Cap		Growth		Value	
	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts
Technology	27.6	13.0	28.5	14.2	15.1	5.8	4.4	4.9	34.1	19.1	18.9	9.4
Transportation	23.0	3.9	26.0	3.7	9.2	4.9	7.9	3.7	48.3	3.8	6.6	3.7
Digital Info & Svc	18.3	17.5	19.0	18.6	10.3	10.8	2.6	8.0	21.2	29.4	13.2	8.3
Cons Goods & Svc	7.5	11.9	7.4	11.9	8.7	12.5	5.9	9.1	12.6	13.3	3.7	10.6
Resources & Materials	5.0	3.8	3.8	2.9	7.8	9.3	5.1	6.7	0.5	1.7	5.3	4.1
Industrials	4.2	6.7	3.5	6.0	7.0	10.6	7.1	10.3	7.5	3.8	1.2	8.2
Real Estate	1.0	3.4	1.9	2.6	-0.3	8.6	-3.7	6.8	0.0	3.2	0.3	2.1
Agri Food Bev	-0.2	3.5	-0.6	3.7	3.9	2.3	4.6	1.2	2.8	1.2	-1.1	6.1
Health Care	-1.8	12.1	-2.3	12.1	3.0	10.4	-3.7	23.7	1.8	13.0	-7.3	11.2
Energy	-3.7	8.0	-3.6	7.9	-3.8	9.3	-6.8	5.9	-27.0	1.7	-2.5	13.8
Financials	-4.5	16.3	-4.4	16.4	-5.0	15.5	-9.6	19.8	0.3	9.9	-6.0	22.6
Market	7.3		7.9		4.0		-1.3		15.9		0.8	

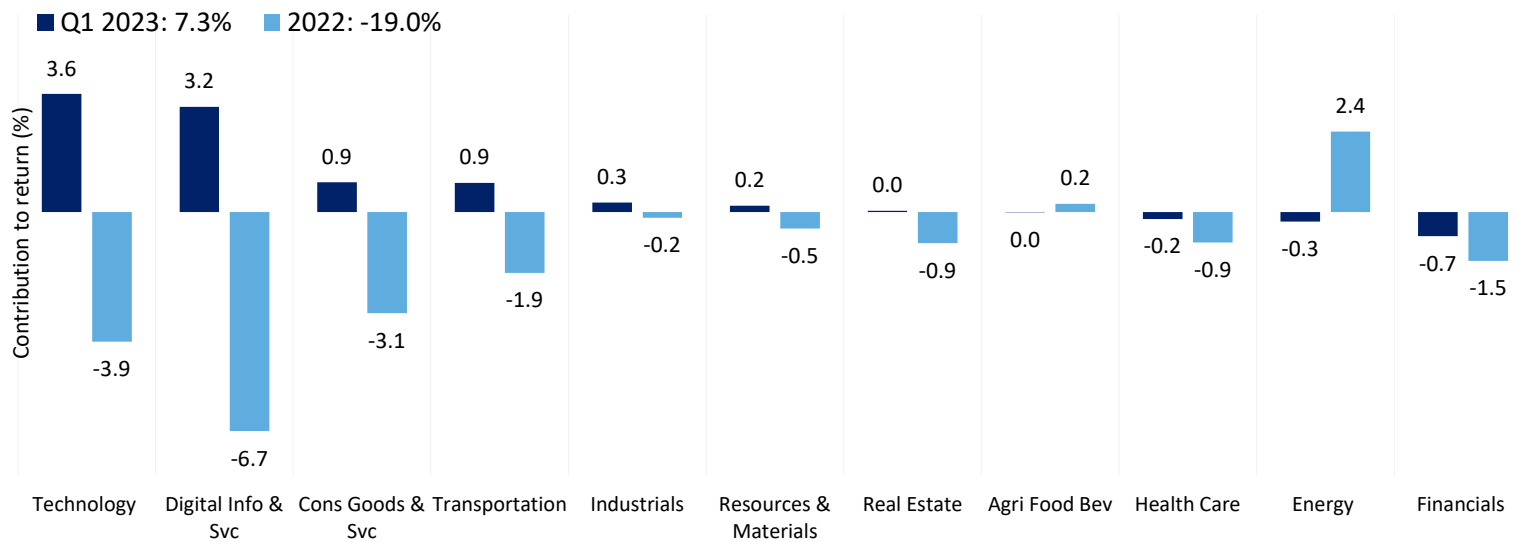
Source: Wilshire. Data as of March 31, 2023

Wilshire Advisors LLC - Performance Report (March 2023)

Sector-weighted performance contribution analysis : The technology and digital information sectors have been the key drivers of performance in Q1

Sector weighted contributions blend sector performance with sector weighting to establish aggregate return drivers. In Q1 technology and digital information sectors dominated returns. The financials, health care and energy sectors delivered negative contributions.

FT Wilshire 5000: Contribution to returns Q1 2023 vs 2022 (USD, TR, %)



Comparing large cap versus small cap contributions: Large cap outperformance in Q1 was aided by the difference in contributions from the technology and digital information sectors.

Q1 2023	FTW 5000	Large Cap	Small Cap	Micro Cap	Growth	Value
	Contr	Contr	Contr	Contr	Contr	Contr
Technology	3.6	4.0	0.9	0.2	6.5	1.8
Digital Info & Svc	3.2	3.5	1.1	0.2	6.2	1.1
Cons Goods & Svc	0.9	0.9	1.1	0.5	1.7	0.4
Transportation	0.9	1.0	0.4	0.3	1.8	0.2
Industrials	0.3	0.2	0.7	0.7	0.3	0.1
Resources & Materials	0.2	0.1	0.7	0.3	0.0	0.2
Real Estate	0.0	0.1	0.0	-0.3	0.0	0.0
Agri Food Bev	0.0	0.0	0.1	0.1	0.0	-0.1
Health Care	-0.2	-0.3	0.3	-0.9	0.2	-0.8
Energy	-0.3	-0.3	-0.4	-0.4	-0.5	-0.3
Financials	-0.7	-0.7	-0.8	-1.9	0.0	-1.3
Market	7.3	7.9	4.0	-1.3	15.9	0.8

Source: Wilshire. Data as of March 31, 2023

Wilshire Advisors LLC - Performance Report (March 2023)

FT Wilshire Size and Style Indexes: Q1 saw growth significantly outperform value. Large cap also outperformed small cap.

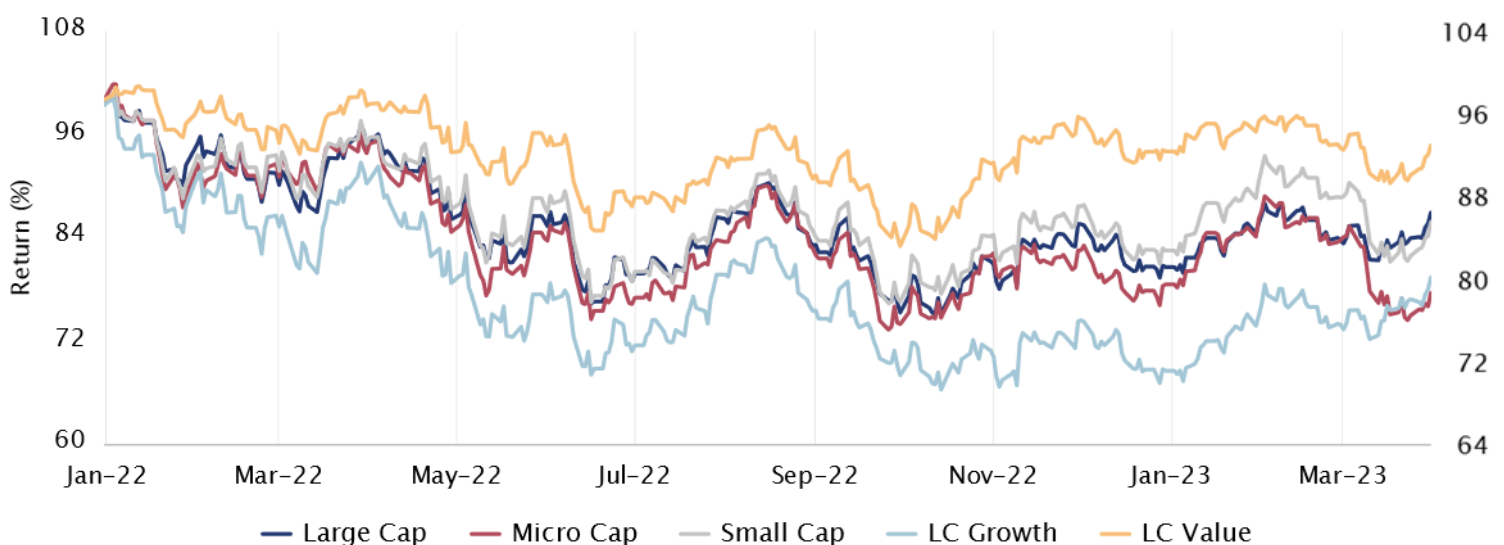
Table 1: Despite an uplift in interest rate forecasts growth continued to outperform value in March widening the scale of outperformance YTD.

USD, TR %	Size			Style	
	Large Cap	Small Cap	Micro Cap	LC Growth	LC Value
1M	3.8	-3.2	-7.3	7.4	0.3
Q1 2023	7.9	4.0	-1.2	15.9	0.8
Oct 2022 Low	15.7	10.8	3.9	19.7	11.8
2022	-19.2	-17.5	-21.4	-31.1	-6.0
2021	27.8	19.1	21.7	27.6	27.5

Table 2: Large cap have delivered a 10yr annualized return of 12.3% vs a small cap return of 9.2%

USD, TR %	Large Cap		Small Cap		Micro Cap		LC Growth		LC Value	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
2Y	5.5	2.7	-7.9	-4.0	-22.6	-12.0	0.4	0.2	10.0	4.9
3Y	66.8	18.6	73.1	20.1	73.4	20.1	64.8	18.1	66.6	18.6
5Y	70.7	11.3	39.3	6.9	24.2	4.4	92.2	14.0	48.3	8.2
10Y	219.8	12.3	141.8	9.2	121.7	8.3				
20Y	631.5	10.5	724.9	11.1	548.0	9.8				

Chart 1: Size and style index returns - YTD (USD, TR %)



Style and Size Indexes: Q1 saw a large reversal in the Growth v Value and Large v Small rotation

Chart 1: Growth vs Value (USD, TR, %).

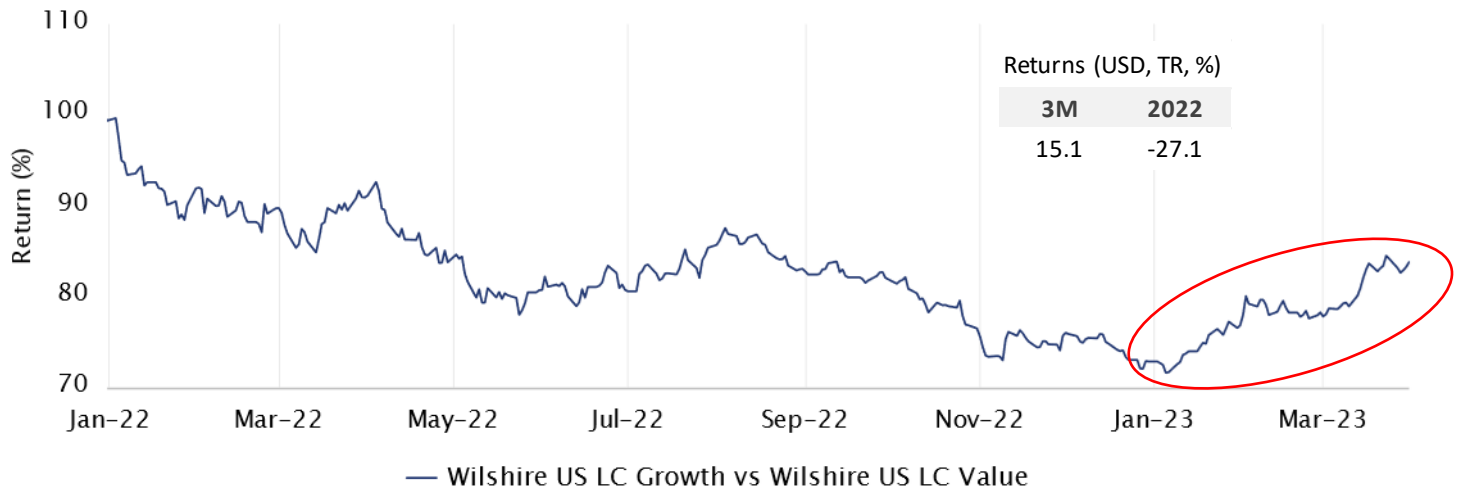


Chart 2: Large vs Small Cap (USD, TR, %).

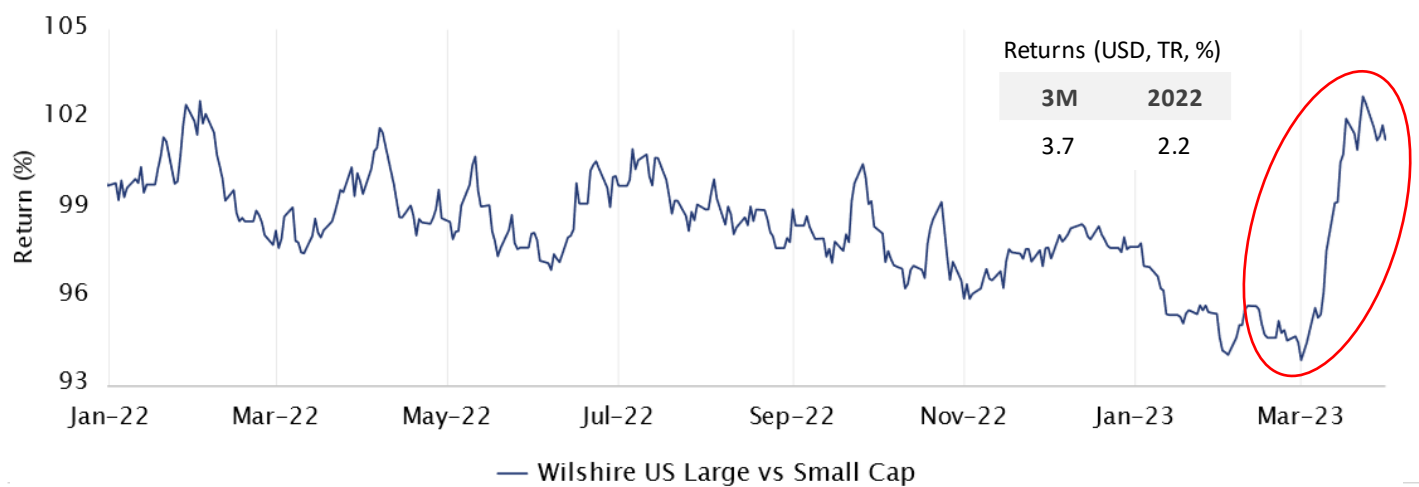
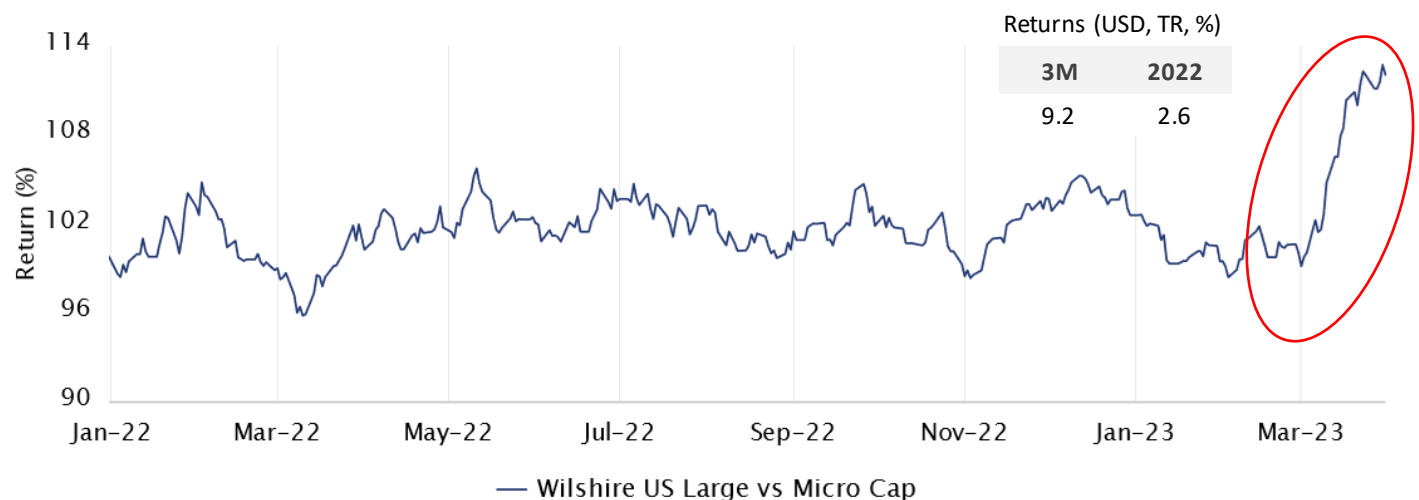


Chart 3: Large vs Micro Cap (USD, TR, %).



Pure Factor Indexes: In Q1 Quality outperformed while beta and size underperformed.

Our “Pure Factors” are designed to eliminate the unintended sector and factor exposures incorporated into most conventional factor methodologies. In this regard they are designed to deliver “pure” factor premia.

Chart 1: 1M - Pure Momentum and Quality have outperformed with Pure Size the notable laggard

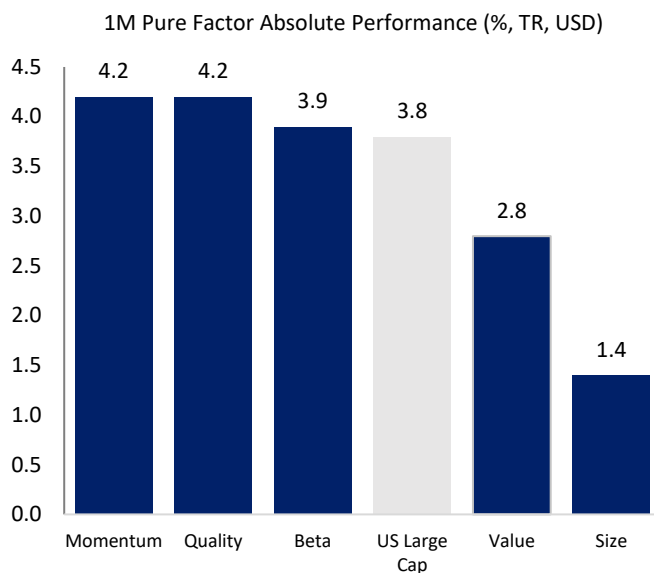


Chart 2: Q1 2023-Pure Quality has been the stand-out performer

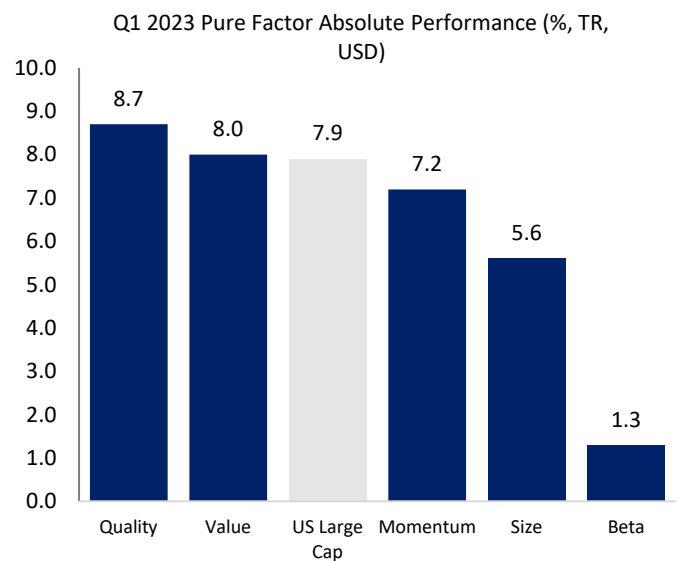


Chart 3: 2022-Only Pure Momentum underperformed US Large Cap in 2022

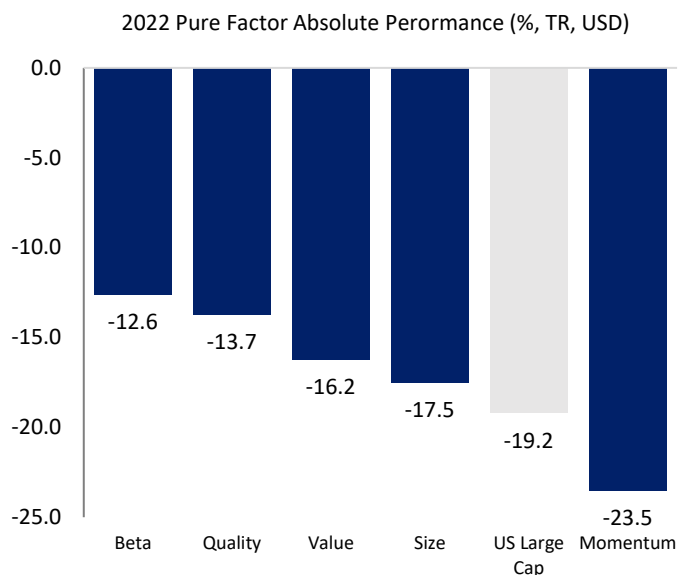
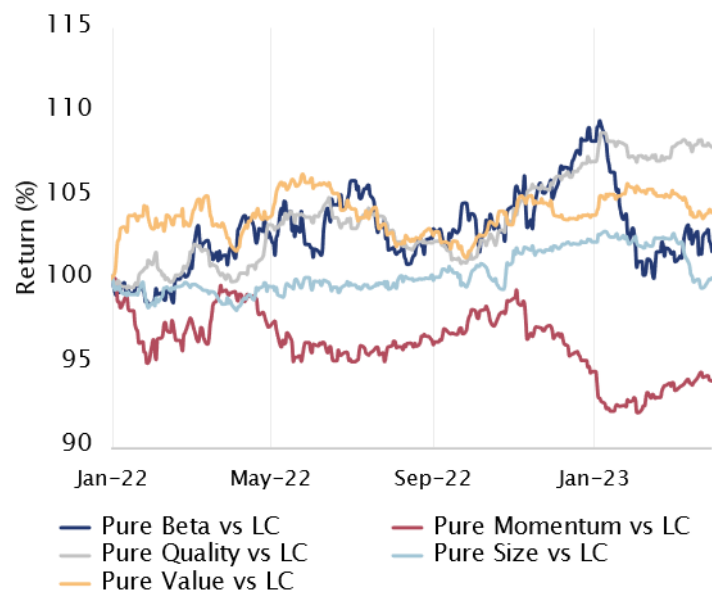


Chart 4: Pure Factor Indexes Relative to FT Wilshire US Large Cap Index from Dec 2021 (Rebased, TR, USD)



Comparing Factor vs Style returns: In Q1, Pure Value outperformed the Value Style index. However, Pure Quality lagged the Growth Style index

Chart 1: Pure Factor and Style Absolute Performance - 1M, Q1, 2022 and 3YR

Returns (USD, TR %)	1M	Q1 2023	2022	3Y
Pure Factor Quality	4.2	8.7	-13.7	76.4
Style Growth	7.4	15.9	-31.1	64.8
Pure Factor Value	2.8	8.0	-16.2	69.4
Style Value	0.3	0.8	-6.0	66.6
Pure Factor Size	1.4	5.6	-17.5	69.5
Style Small Cap	-3.2	4.0	-17.5	73.1

Chart 2: Pure Factor Quality Index lagged the recovery in the Growth style index in Q1.

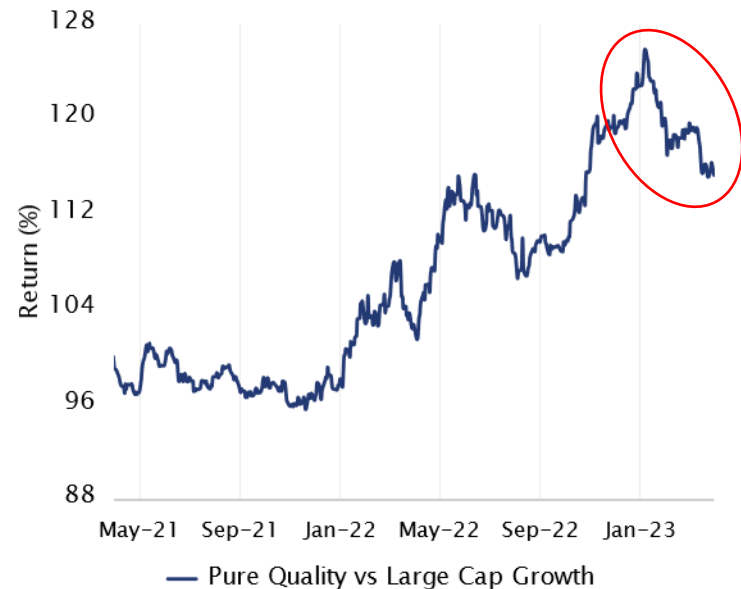


Chart 3: After lagging most of 2022 the Pure value index outperformed the Value style index in Q1

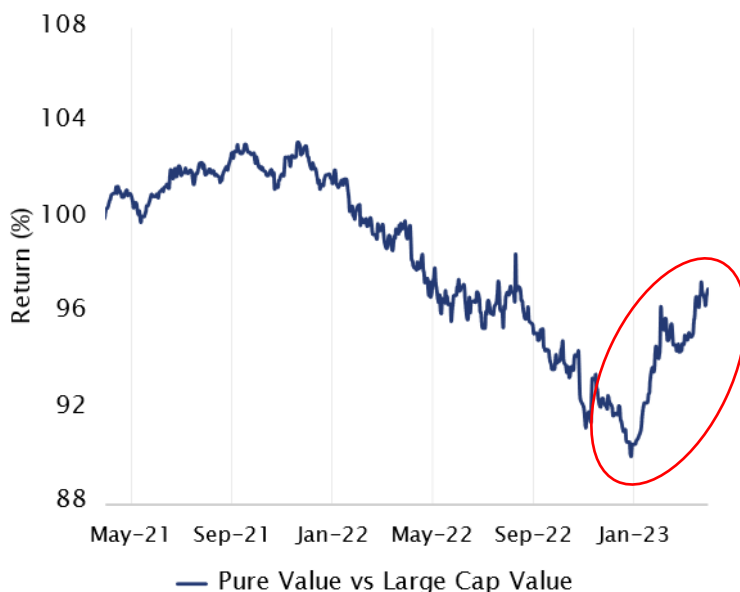


Chart 4: Pure Factor Size Index relative performance vs Style Small Cap Index - 5 years



Technical Analysis: FT Wilshire LC growth relative to LC value performance breaks above resistance levels but looks overbought near term

Chart 1: The FT Wilshire 5000 saw a positive 50 vs 200 DMA intersect in mid February and the 200 DMA bottoming in late March

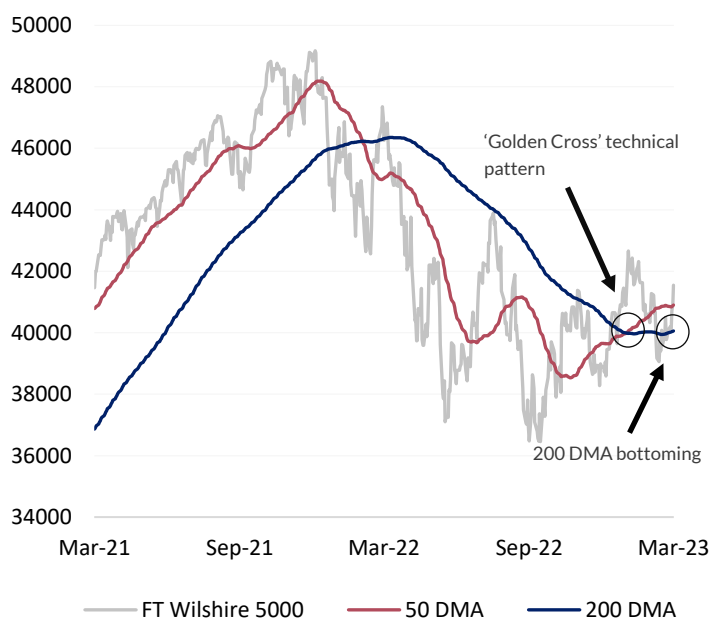


Chart 2: FT Wilshire LC growth relative to LC value broke above (and has remained above) resistance levels hit several times over the past year

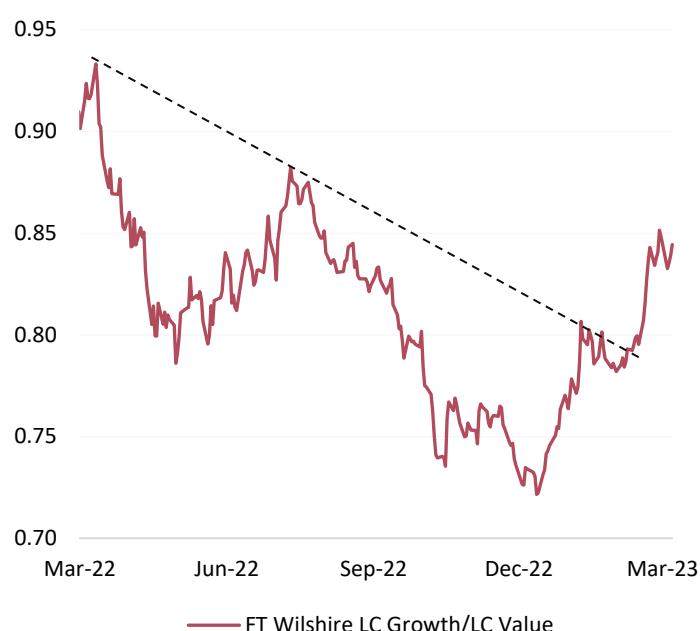


Chart 3: Large cap relative to small cap and LC growth relative to LC value RSIs rapidly shifted from oversold at the start of the year to very overbought levels in mid March

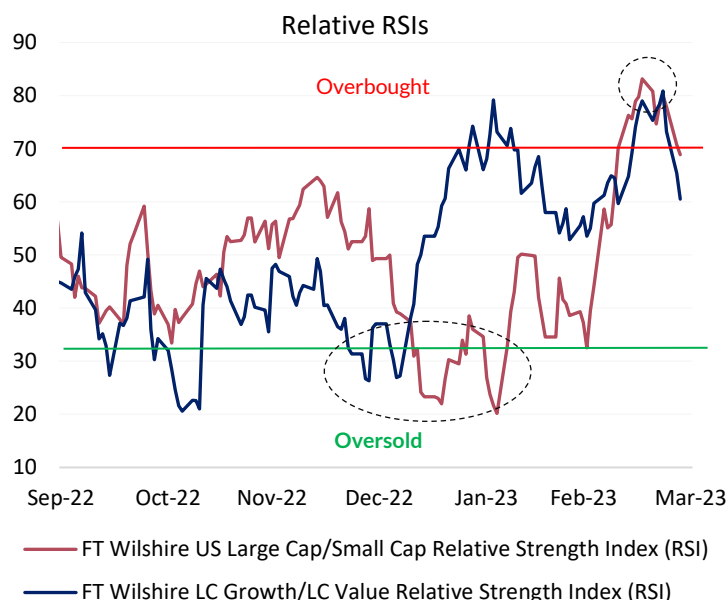
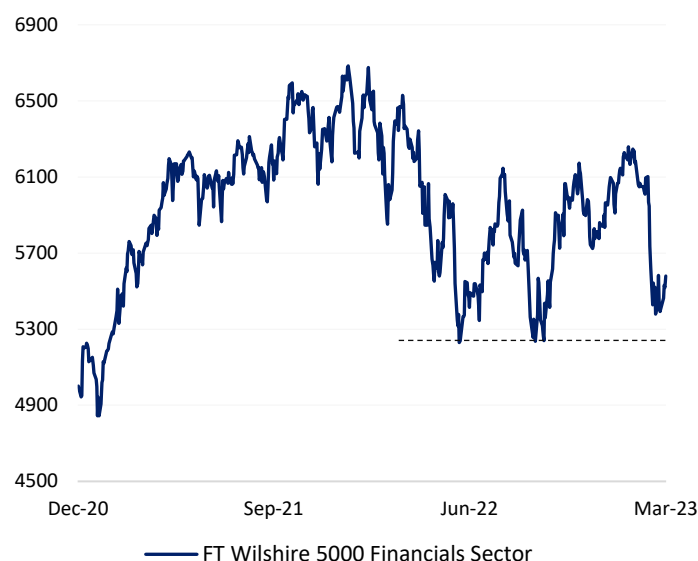


Chart 4: Should the FT Wilshire 5000 financials sector see further declines, a potential support level could be around -5% lower from current levels



Performance Dispersion Analysis: Comparing the aggregate performance of the top 10 stocks (by market cap) vs median stock and sector dispersion

Chart 1: FT Wilshire 5000 stock dispersion-
deteriorating breath in Q1 versus 2022 with the top 10 largest stocks comfortably outperforming median



Chart 2: FT Wilshire 5000 sector dispersion-
continued wide dispersion between sector returns



● Top 10 Stocks by Market Cap Aggregate Return (Equally-Weighted)
● Median Stock Return

● Top Performing Sector ● Bottom Performing Sector

1M Returns (USD, TR, %)

FT Wilshire 5000: 2.7%	Wght	Return (%)	Contrib (%)
Apple Inc	6.0	27.1	1.51
Microsoft Corp	4.8	20.5	0.96
Nvidia Corp	1.3	90.1	0.84
Unitedhealth Group I	1.2	-10.5	-0.14
Johnson & Johnson	1.1	-11.6	-0.15
Pfizer Inc	0.6	-19.6	-0.15

Wilshire Large Cap: 3.8%	Wght	Return (%)	Contrib (%)
Apple Inc	7.0	27.1	1.75
Microsoft Corp	5.5	20.5	1.12
Nvidia Corp	1.5	90.1	0.98
Unitedhealth Group I	1.3	-10.5	-0.16
Johnson & Johnson	1.3	-11.6	-0.17
Pfizer Inc	0.7	-19.6	-0.18

Wilshire Small Cap: -3.2%	Wght	Return (%)	Contrib (%)
First Solar Inc	0.3	33.3	0.11
Coinbase Global Inc	0.2	90.9	0.11
Lattice Semiconducto	0.2	47.2	0.09
First Horizon Natl C	0.2	-26.7	-0.08
Ovintiv Inc	0.2	-28.4	-0.08
Texas Pacific Land Corp	0.3	-27.3	-0.11

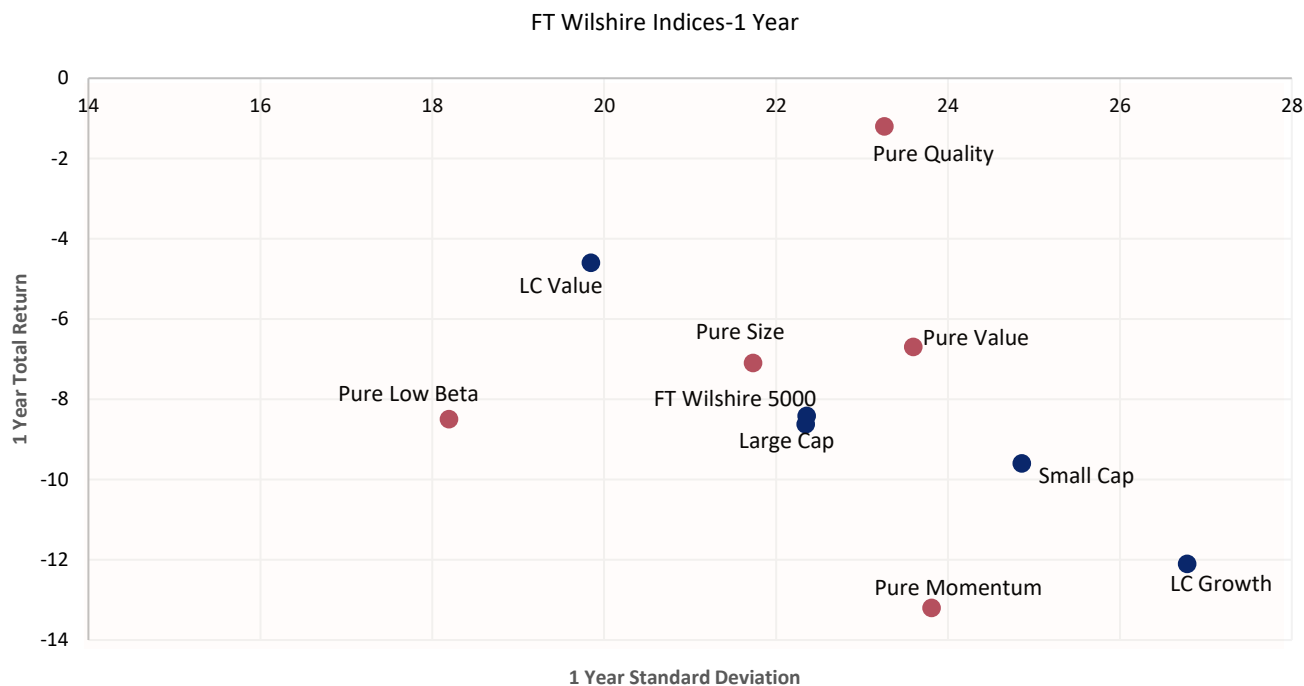
Wilshire Micro Cap: -7.3%	Wght	Return (%)	Contrib (%)
Reata Pharmaceuticals I	0.3	139.3	0.25
Provention Bio Inc	0.2	128.0	0.17
Biomea Fusion Inc	0.0	267.9	0.09
Clearfield Inc	0.1	-50.5	-0.09
Altimune Inc	0.1	-74.3	-0.10
Vaxcyte Inc	0.3	-21.6	-0.10

Wilshire Growth: 7.4%	Wght	Return (%)	Contrib (%)
Apple Inc	13.1	27.1	3.39
Microsoft Corp	10.3	20.5	2.17
Nvidia Corp	2.8	90.1	1.90
Conocophillips	0.8	-15.0	-0.14
Schwab Charles Cp Ne	0.7	-36.9	-0.31
Unitedhealth Group I	2.5	-10.5	-0.32

Wilshire Value: 0.4%	Wght	Return (%)	Contrib (%)
General Electric Co	0.5	47.0	0.20
Intel Corp	0.7	25.2	0.16
Disney Walt Prodtns	1.0	15.3	0.14
Bank America Corp	1.5	-13.1	-0.20
Johnson & Johnson	2.4	-11.6	-0.31
Pfizer Inc	1.4	-19.6	-0.32

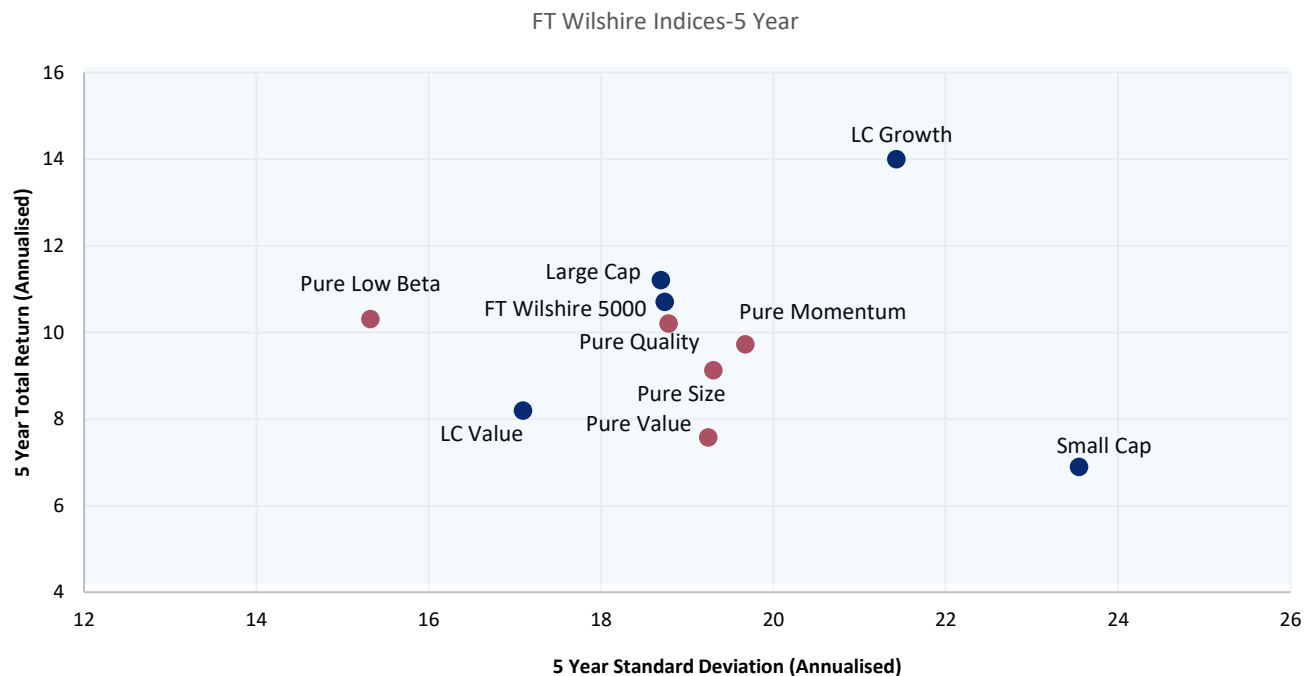
FT Wilshire Index Risk vs Return: 1 year and 5 year perspectives

FT Wilshire Indexes: Risk vs Return Over 1 Year



FT Wilshire Indexes: Risk vs Return Over 5 Years

Pure Factor ■ Style ■



Global Equities

1

+2.6%

Return of the World Index in March

2

+6.6%

Rise in World Index in Q1

3

+11.4%

Rise in Europe ex UK Index in Q1

4

+8.5%

10-year annualized return for the World Index

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US equities performance vs global non US equities. Since the start of 2022 the World ex US index has outperformed US equities



Source: FactSet. Data as of March 31, 2023

Global Equity Market Synopsis: A volatile quarter that saw bank contagion fears resurrect Global Financial Crisis redux concerns

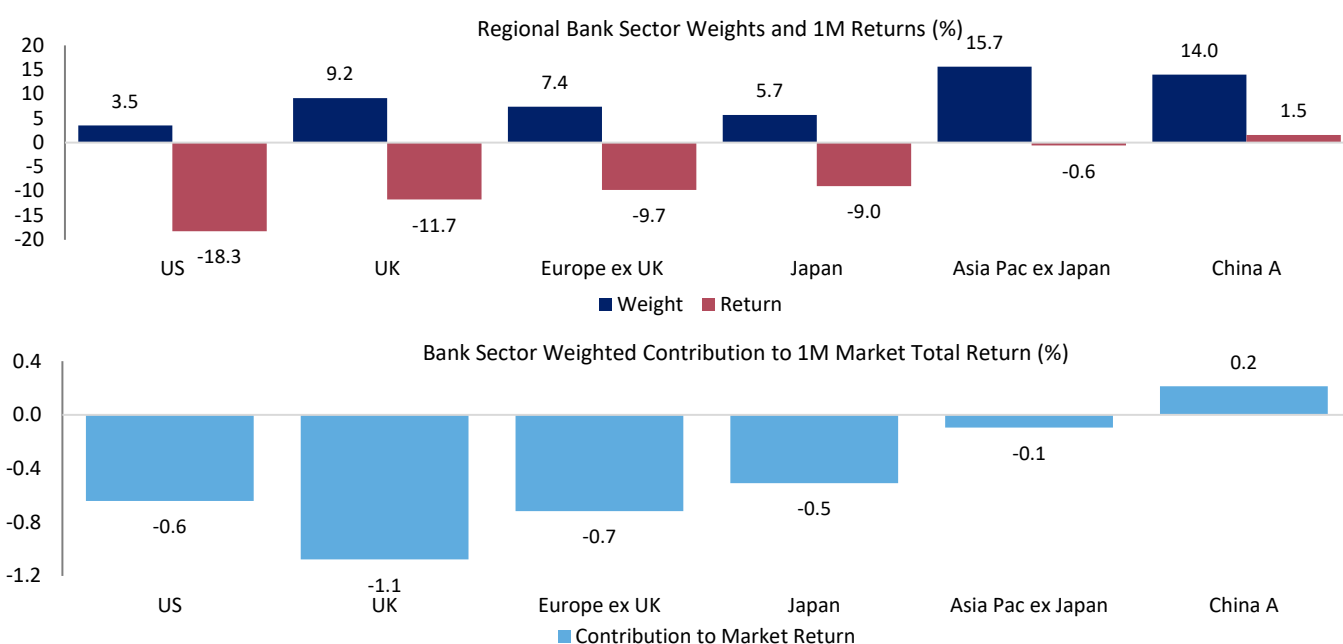
Global Markets Snapshot

- ◆ Despite increased volatility in March all major regions delivered positive returns in Q1 2023. Europe ex UK outperformed with Asia Pacific ex Japan and Emerging markets the laggards. ([page 18](#))
- ◆ The US outperformed the World ex US in Q1, with developed markets outperforming emerging ([page 18](#))
- ◆ Technology sector was the strongest performer globally over the quarter with financials significantly underperforming ([page 19](#))
- ◆ In Q1 the US benefited from a superior contribution from the technology sectors vs the World ex US (page 23)
- ◆ A PE re-rating was the main driver behind returns in Q1 across most regions (page 24)

Key Global (non US) Economic data

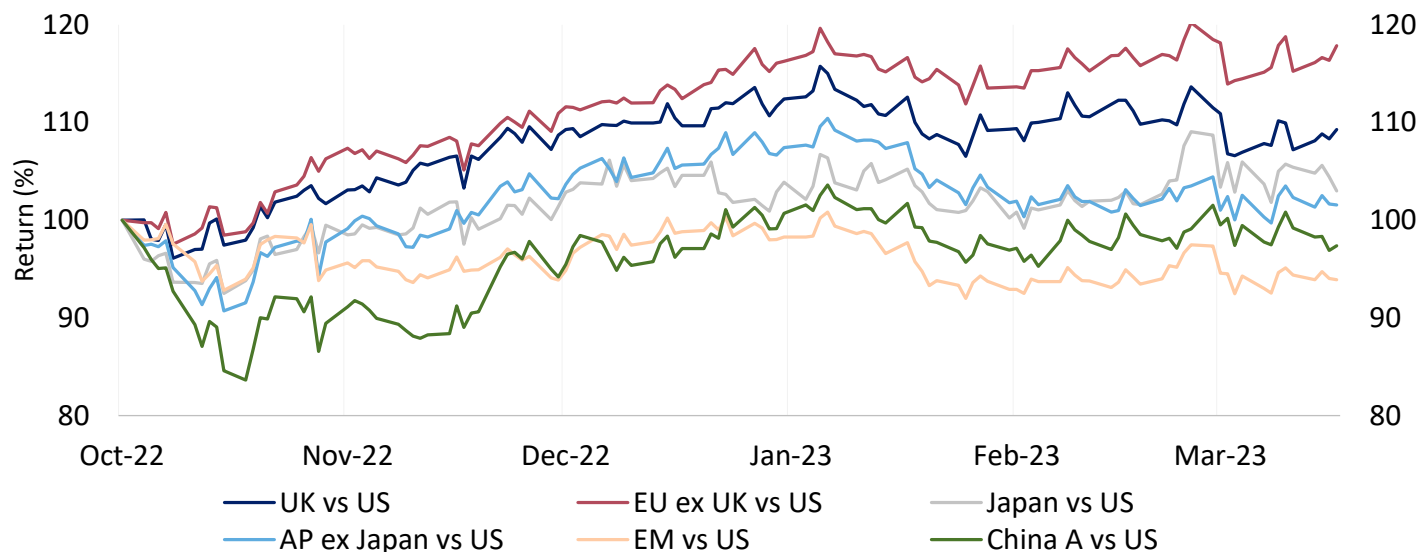
- ◆ The fallout from the SVB collapse in the US spread to banks globally in March, with concerns over a GFC redux rising to the surface
- ◆ Contagion fears and reassessment of interest rate expectations lead to decline in global bond yields in March (page 30).
- ◆ After rallying early in Q1 dollar weakness resumed in March, reflecting deteriorating interest rate differentials between the US and Europe
- ◆ Eurozone CPI inflation falls sharply in March from 8.5% to 6.9%. UK CPI inflation unexpectedly rises again to 10.4%
- ◆ Bank of England raises interest rates by 25bps in March to 4.25%. ECB raises rates by 50bps to 3%

Chart 1: Regional bank sector weights, returns and weighted contribution to 1M total returns



Region and major market performance (USD returns): The US outperformed the World ex US index in both March and Q1

Regional returns vs US since the October 2022 low (USD, TR, %) - European equities have seen strong relative performance while Emerging Markets have underperformed.



Regional Returns - Short Term (USD, TR, %)

	1M	Q1 2023	2022	2021
US	3.1	7.6	-19.8	24.8
Japan	3.0	5.1	-17.4	-0.2
Europe ex UK	2.7	11.4	-17.7	15.6
Asia Pac ex Japan	2.6	2.4	-14.0	0.4
World	2.6	6.6	-16.5	16.1
World ex US	2.1	5.6	-13.1	8.4
Emerging Mkts	2.1	1.0	-16.6	8.4
China A	0.9	6.6	-24.4	2.1
UK	-1.1	5.7	-12.2	15.6

Regional Returns - Long Term (USD, TR, %)

	3Y		5Y		10Y		20Y	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
US	64.1	18.0	64.2	10.4	195.6	11.4	623.4	10.4
UK	45.3	13.3	10.1	1.9	38.5	3.3	262.7	6.7
Europe ex UK	56.3	16.1	37.7	6.6	113.7	7.9	474.0	9.1
Japan	19.0	6.0	1.7	0.3	61.9	4.9	226.0	6.1
Asia Pac ex Japan	33.8	10.2	5.3	1.0	47.1	3.9	593.5	10.2
Emerging Mkts	50.8	14.7	12.1	2.3	37.3	3.2	674.2	10.8
China A	86.0	23.0	35.0	6.2	126.1	8.5	264.6	6.7
World ex US	53.3	15.3	34.5	6.1	109.1	7.7	414.8	8.5
World	54.0	15.5	38.9	6.8	125.5	8.5	516.9	9.5

Source: Wilshire and Refinitiv. Data as of March 31, 2023

The FX adjusted market returns: Currency volatility creates very different perspectives for unhedged USD, GBP, Euro and Yen based investors

FX swings can have a large impact on unhedged regional equity returns depending on the location of investors. Due to GBP, Euro and JPY weakness versus the dollar in 2022, investors in the UK, Europe and Japan had very different perceptions of regional market returns (unhedged) compared with a USD based investor. The FX impact in Q1 was not particularly significant.

Table 1: Returns in USD - Q1 2023 and 2022

USD (TR, %)		Q1	2022
Germany		12.3	-15.0
Developed		7.6	-18.3
US		7.6	-19.8
World		6.6	-16.5
UK		5.7	-12.2
Japan		5.1	-17.5
Asia Pacific ex Japan		2.4	-14.0
Emerging		1.0	-5.2

Table 2: Returns in EURO - Q1 2023 and 2022

EUR (TR, %)		Q1	2022
Germany		13.4	27.3
Developed		5.7	5.6
US		5.7	1.2
World		4.7	3.9
UK		3.8	10.8
Japan		3.3	6.4
Asia Pacific ex Japan		0.6	3.5
Emerging		-0.8	-4.7

Table 3: Returns in GBP - Q1 2023 and 2022

GBP (TR, %)		Q1	2022
Germany		12.3	28.5
Developed		4.7	6.6
US		4.7	2.2
World		3.7	4.9
UK		2.8	11.9
Japan		2.4	7.6
Asia Pacific ex Japan		-0.4	4.5
Emerging		-1.8	-3.8

Table 4: Returns in JPY - Q1 2023 and 2022

JPY (TR, %)		Q1	2022
Germany		16.5	29.8
Developed		8.6	7.7
US		8.5	3.2
Asia Pacific ex Japan		7.5	1.6
World		7.5	5.9
UK		6.6	13.0
Japan		6.1	8.5
Emerging		1.9	-2.8

Global Equity Relative Returns: US relative performance has lost momentum in recent months while European equities have seen an improvement

Chart 1 : US vs World ex US (USD, TR, %)

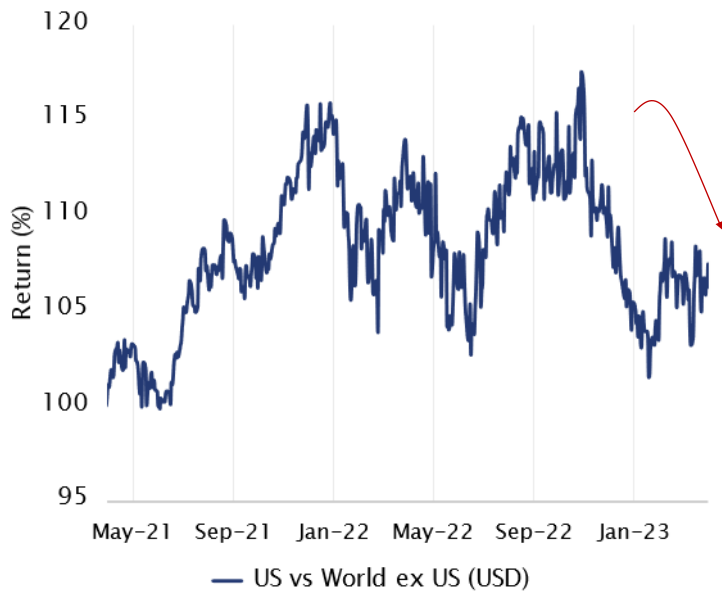


Chart 2: Emerging Markets vs Developed (USD, TR, %)

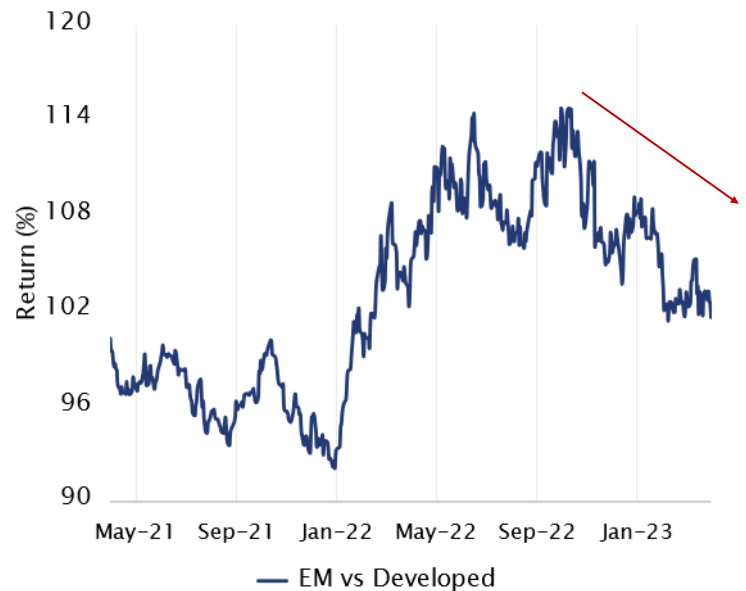


Chart 3: Europe ex UK vs World ex Dev Europe (USD, TR, %)



Chart 4: China A vs World (USD, TR, %)



Developed and Emerging market country level performance: European markets delivered the best performance in Q1

Chart 1: March - Developed market performance was propped up by Japan and the US offsetting weakness from the UK, Canada and Australia. Malaysia was the worst performing Emerging Market.

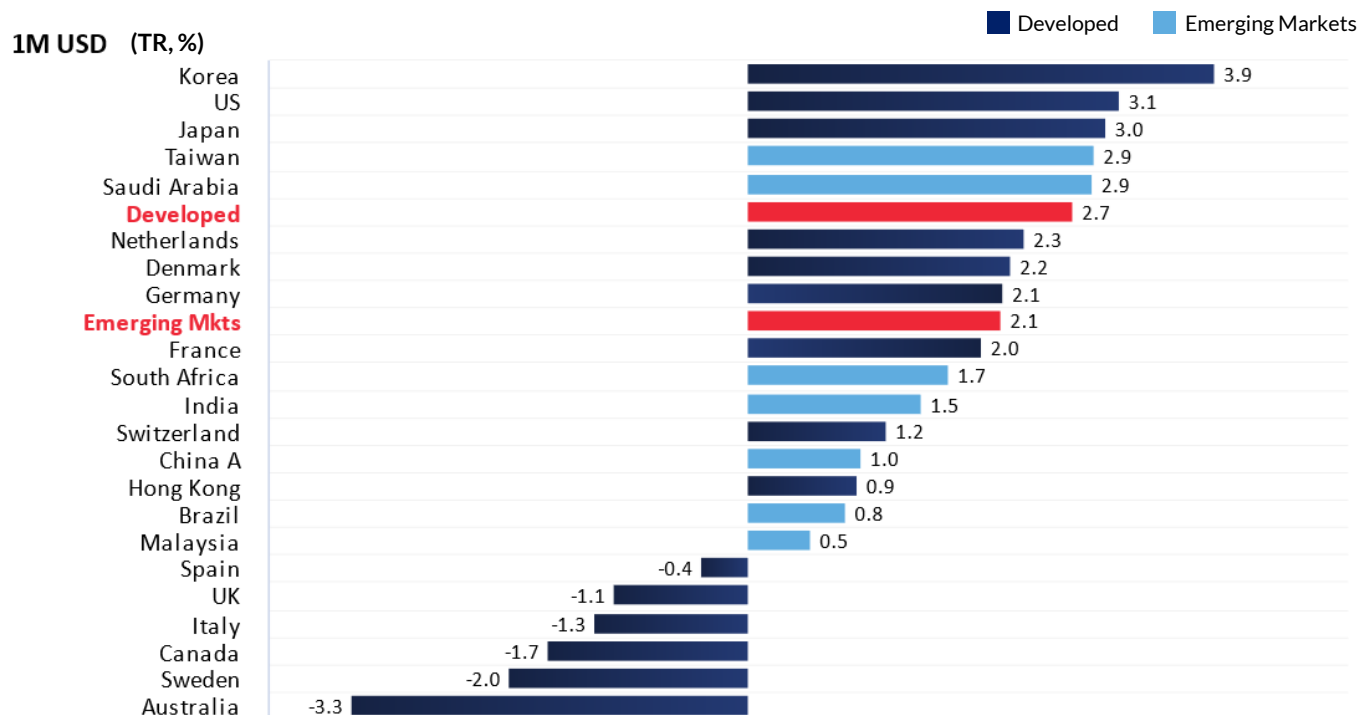
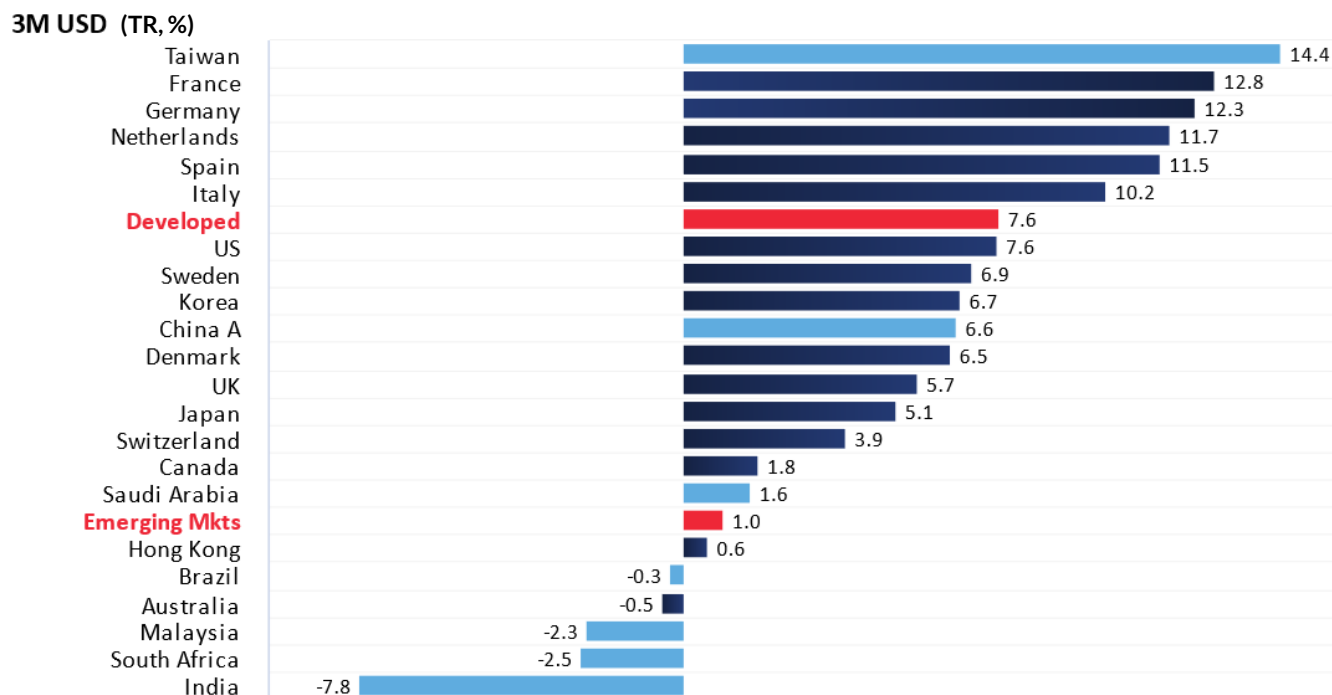
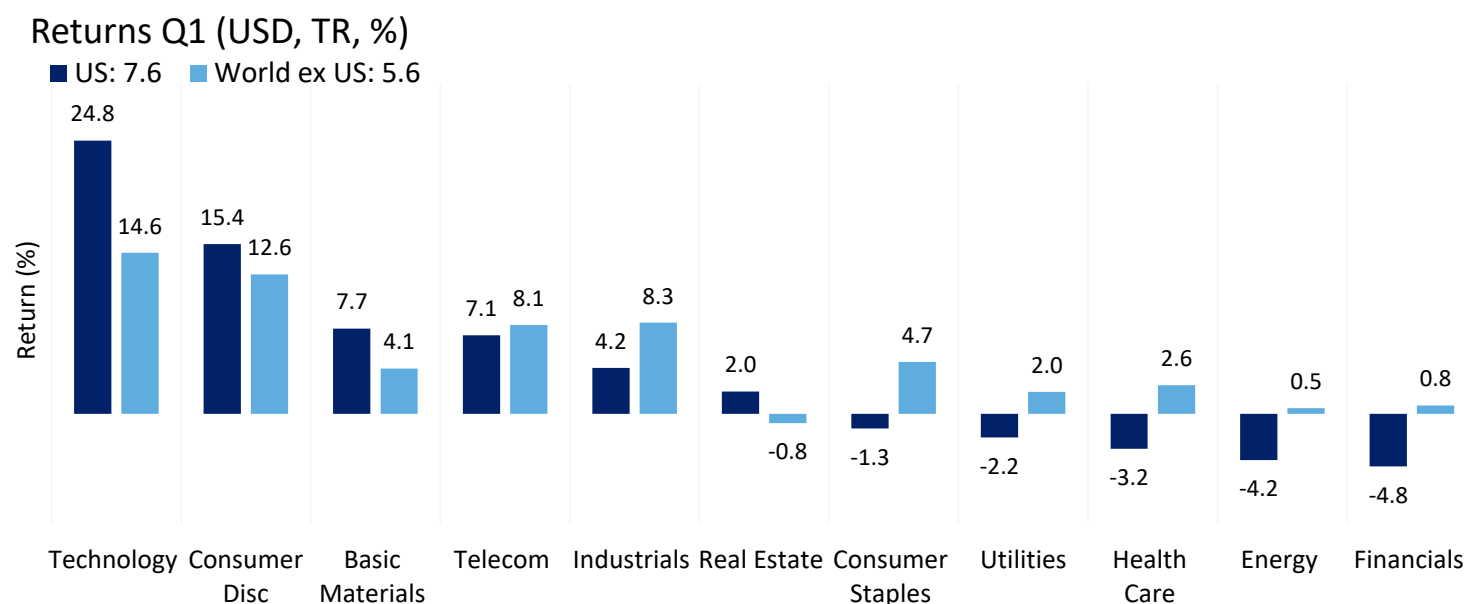


Chart 2: Q1- Developed markets saw the best performance delivered by European markets. Taiwan also performed strongly. India was the notable laggard reflecting the impact of the sharp drop in Adani.



Regional Sector Performance and Sector Weighting Comparisons

Comparing the performance of US sectors to those of World ex US index in Q1: The US delivered superior returns in the technology sector but saw more pronounced weakness in the financials, energy, healthcare and utilities sectors.



Regional sector performance and sector weighting comparisons: The key differences in sector weightings between the US and the World ex US occur in the financial and energy sectors (a smaller US exposure) and a significantly larger exposure in the US to the technology and health care sectors.

Q1 2023	US		World ex US		UK		EU ex UK		Japan		AP ex Japan		China	
	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght
Technology	24.8	25.4	14.6	10.0	4.2	1.6	18.8	7.7	12.1	10.8	12.7	18.7	16.4	8.0
Consumer Disc	15.4	14.8	12.6	13.9	14.5	11.1	19.6	18.4	7.9	24.1	4.6	12.1	0.6	11.1
Basic Materials	7.7	2.3	4.1	6.7	-8.9	9.0	5.8	4.4	16.2	4.9	3.9	6.6	6.7	8.5
Telecom	7.1	2.7	8.1	4.3	10.6	1.9	13.6	3.4	1.7	6.0	8.9	4.7	35.7	3.3
Industrials	4.2	12.8	8.3	13.4	7.7	10.4	13.3	17.5	9.3	23.8	-1.7	9.7	7.2	12.9
Real Estate	2.0	3.0	-0.8	3.4	2.0	2.0	-4.2	2.0	-2.6	3.8	-1.3	5.4	-7.4	1.3
Consumer Staples	-1.3	5.7	4.7	7.1	0.8	15.0	7.9	7.9	3.2	6.2	-0.4	6.5	3.0	15.0
Utilities	-2.2	3.1	2.0	4.1	8.4	3.3	7.2	5.3	-0.1	1.2	-10.6	3.3	2.6	3.4
Health Care	-3.2	13.2	2.6	7.3	0.1	11.5	3.7	12.6	1.0	8.3	-3.6	4.4	-0.3	7.0
Energy	-4.2	5.3	0.5	10.0	2.7	10.6	-6.8	4.9	2.8	0.7	0.4	5.8	10.6	7.1
Financials	-4.8	11.8	0.8	19.8	1.6	23.7	3.6	15.9	-3.3	10.3	-1.2	22.8	1.5	22.5
Market Returns	7.6		5.6		5.7		11.4		5.1		2.4		6.6	

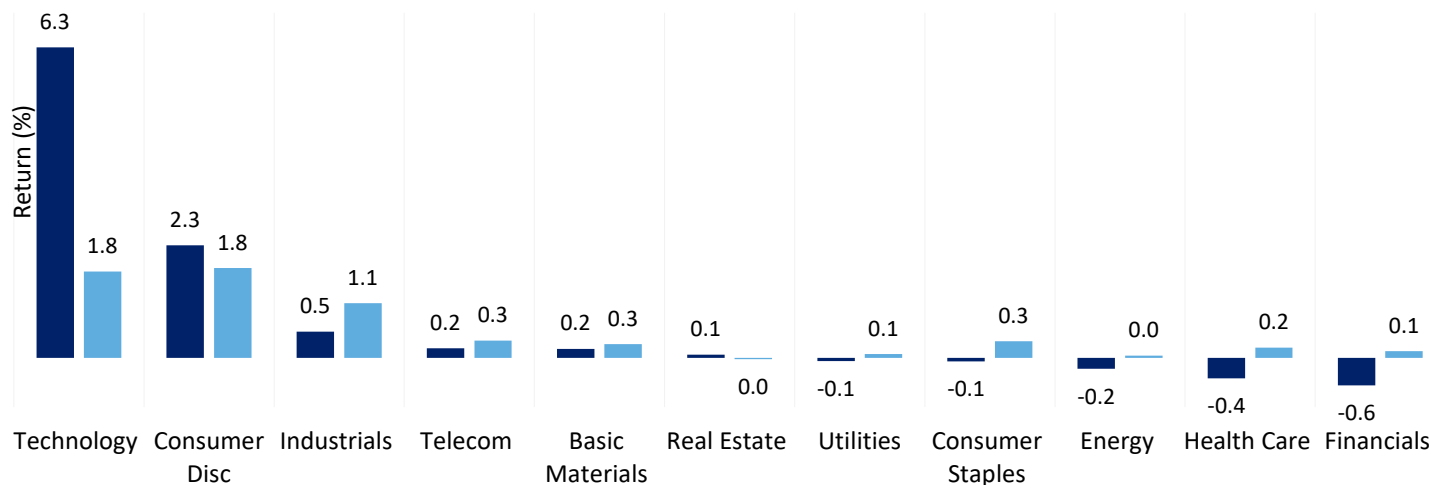
Source: Wilshire, FactSet and Refinitiv. Data as of March 31, 2023

Sector-weighted contribution analysis: In Q1 the US benefited from the contribution from the technology sector but was impacted by the drag from financials

Contribution analysis blends sector performance with respective sector exposure. In Q1 the contribution generated by the technology sector dominated US returns but the US did also see this offset by the negative contribution from financials and health care.

Contribution to Returns Q1 (USD, TR, %)

■ US: 7.6 ■ World ex US: 5.6



Regional contribution analysis. The US experienced larger respective contributions from the technology and consumer discretionary sectors but a drag from health care relative to the World ex US index.

Q1 2023	US	World ex US	UK	EU ex UK	Japan	AP ex Japan	China
	Contr	Contr	Contr	Contr	Contr	Contr	Contr
Technology	6.3	1.8	0.1	1.6	1.6	2.7	1.4
Consumer Disc	2.3	1.8	1.9	3.3	1.8	0.6	0.1
Industrials	0.5	1.1	0.9	2.3	2.2	-0.1	0.9
Telecom	0.2	0.3	0.2	0.5	0.1	0.4	0.7
Basic Materials	0.2	0.3	-0.9	0.3	0.9	0.2	0.7
Real Estate	0.1	0.0	0.1	-0.1	-0.1	-0.1	-0.1
Utilities	-0.1	0.1	0.3	0.3	0.0	-0.3	0.1
Consumer Staples	-0.1	0.3	0.1	0.6	0.2	0.0	0.4
Energy	-0.2	0.0	0.2	-0.4	0.0	0.0	0.6
Health Care	-0.4	0.2	0.0	0.5	0.1	-0.2	0.0
Financials	-0.6	0.1	0.4	0.5	-0.3	-0.3	0.3
Market	7.6	5.6	5.7	11.4	5.1	2.4	6.6

Source: Wilshire, FactSet and Refinitiv. Data as of March 31, 2023

Regional Equities: Deteriorating dispersion dynamics in Q1 with the top 10 stocks

Chart 1: Aggregate top 10 stocks (by market cap) vs median stock return - deteriorating breath in US in Q1 vs 2022

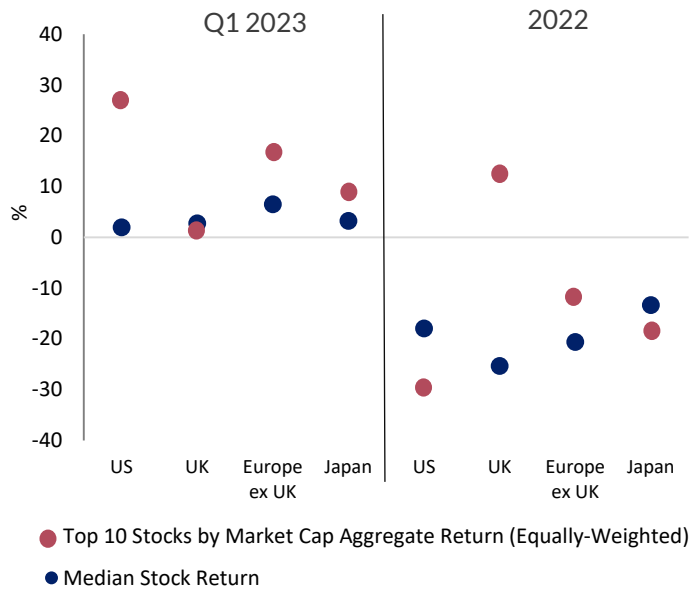


Chart 2: Improving dispersion within China A in Q1 vs 2022. Very narrow dispersion in performance within Emerging markets in the first quarter



Chart 3: Q1 2023 total return decomp-PE re-rating drives returns across most regions in the first quarter

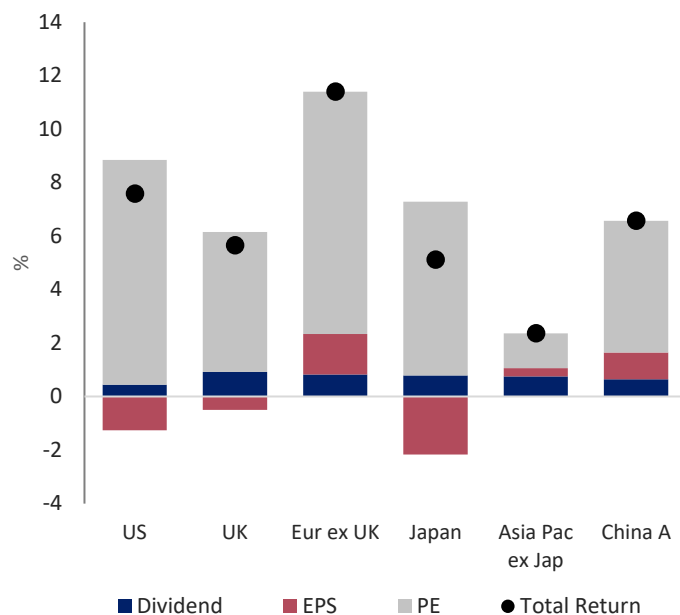
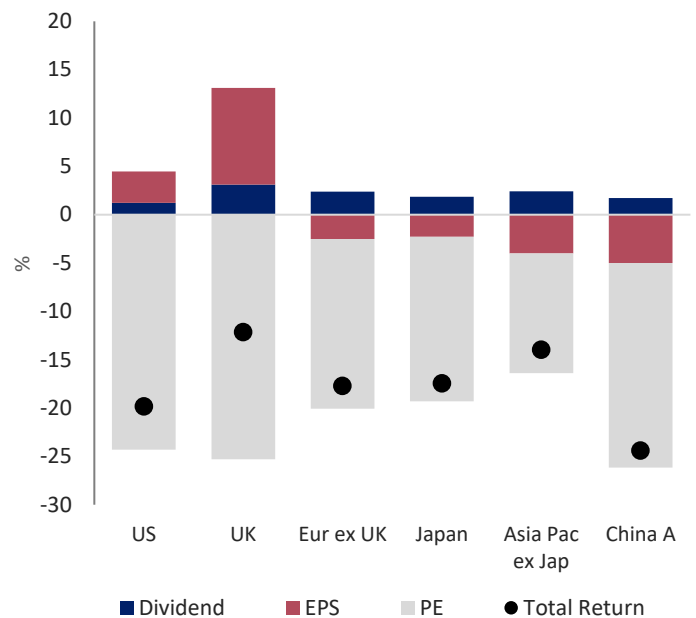


Chart 4: 2022 total return decomposition - PE de-rating main driver behind market declines



Technical and sentiment Analysis: US composite sentiment indicator quickly improves after substantial declines in the banks sector, as contagion fears dissipate

Chart 1: US composite sentiment indicator and survey-based sentiment have rotated from relative highs to lows in mid March but technicals have quickly rebounded in the latter part of the month

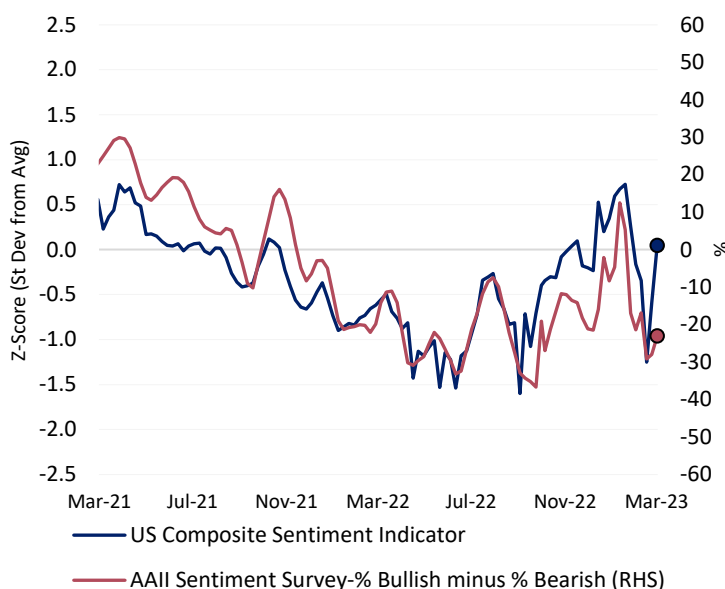


Chart 2: Despite the US bank sector Relative Strength Index (RSI) hitting a lower level than during the GFC the overall US market has not registered an oversold reading of below 30

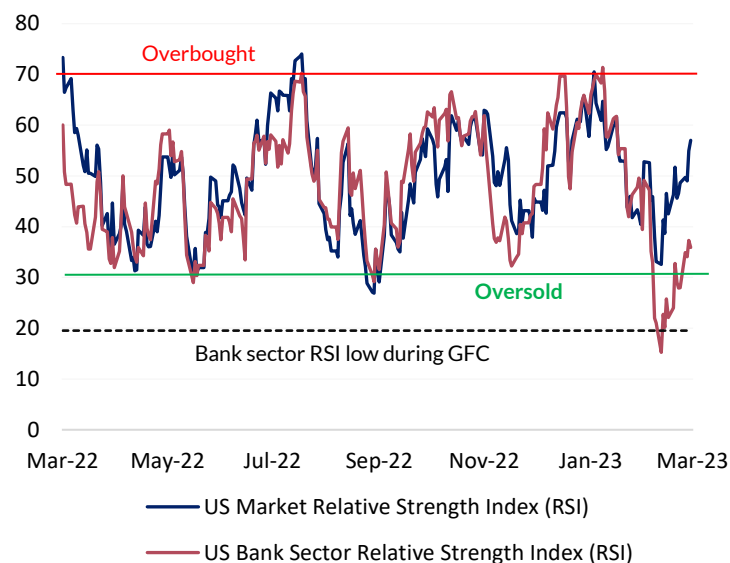


Chart 3: The percentage of stocks within the US bank sector registering an RSI below 30 (oversold) hit an extreme high in mid March

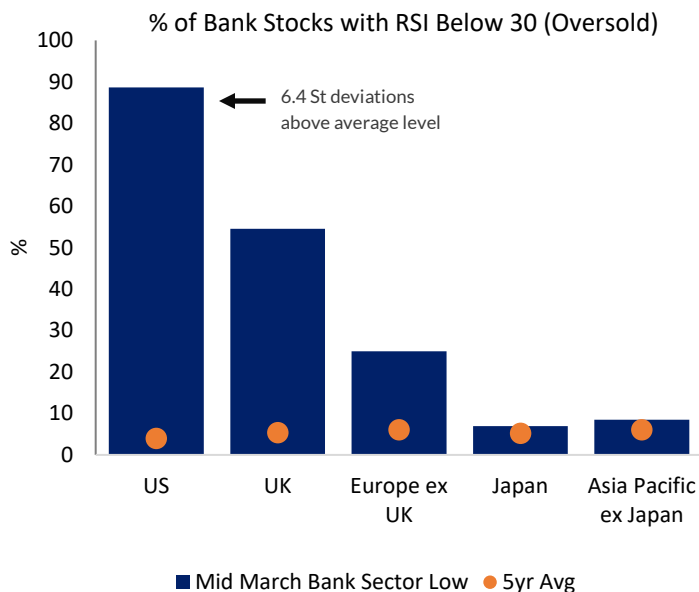
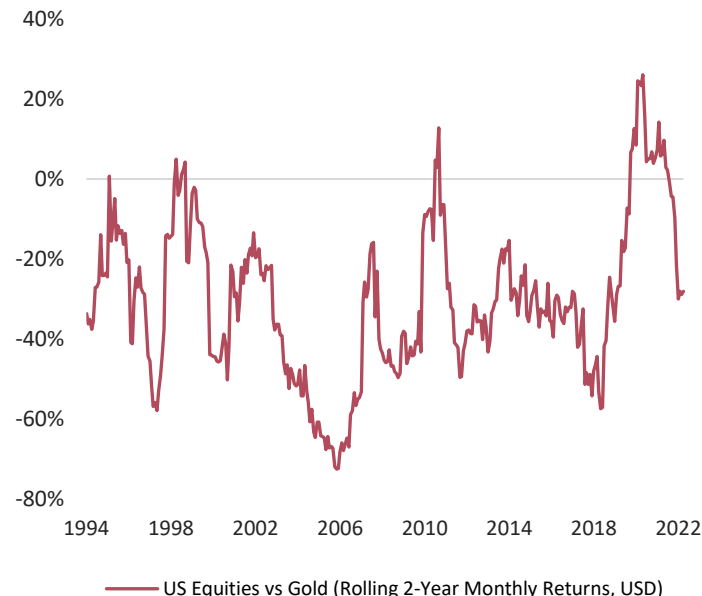


Chart 5: US equity vs gold correlations-after spending much of 2021 and 2022 in positive territory correlations have rapidly reverted back to negative levels



Market Capitalization of major markets and Regional sector weighting comparisons

Chart 1: Markets size (USD, Bn)

	Latest	% World Index	10Y Ago	% World Index
US	41,144	49.4	18,840	36.6
UK	3,075	3.7	3,232	6.3
Japan	5,375	6.5	3,862	7.5
China A	6,688	8.0	2,616	5.1
Switz	1,918	2.3	1,328	2.6
France	3,288	3.9	1,725	3.4
Germany	2,237	2.7	1,473	2.9
Canada	2,413	2.9	1,731	3.4
Australia	1,479	1.8	1,321	2.6
Taiwan	1,202	1.4	526	1.0
India	2,559	3.1	1,024	2.0
Korea	1,222	1.5	876	1.7
World	83,291		51,492	

Chart 2: History of regional market weightings in the world index (USD)

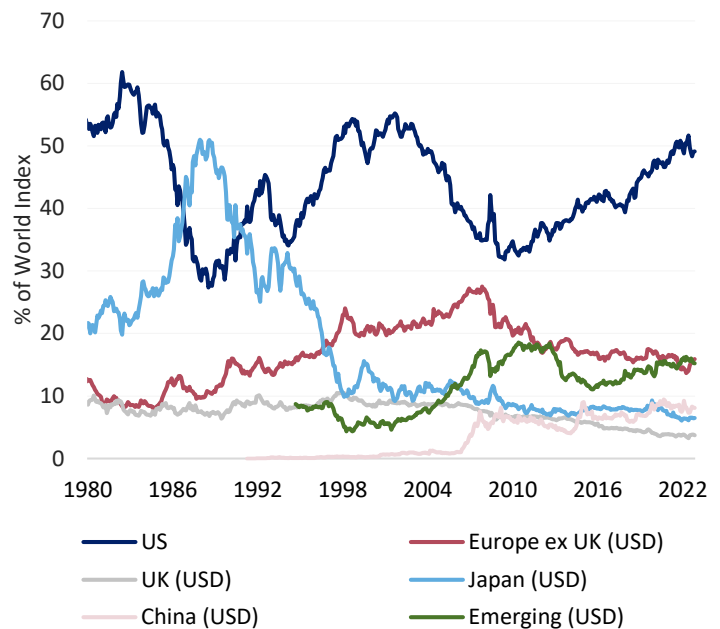
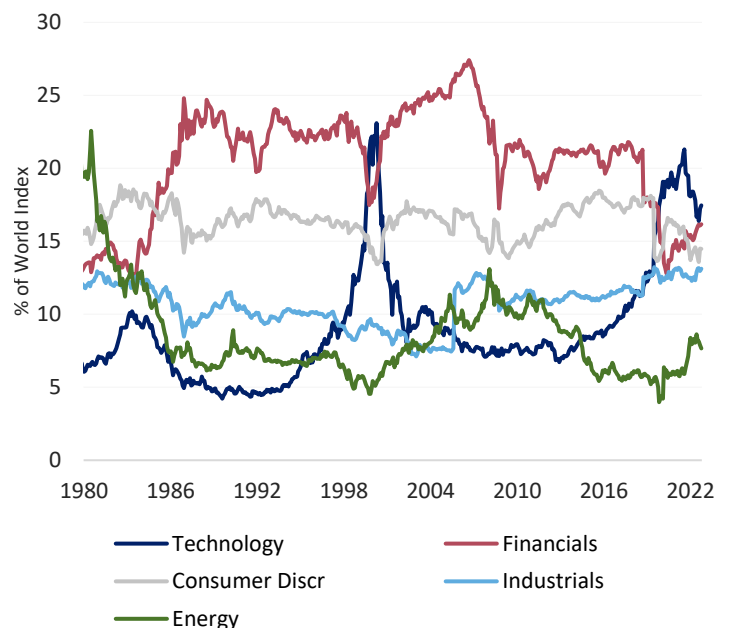


Chart 3: Regional sector weightings (%)

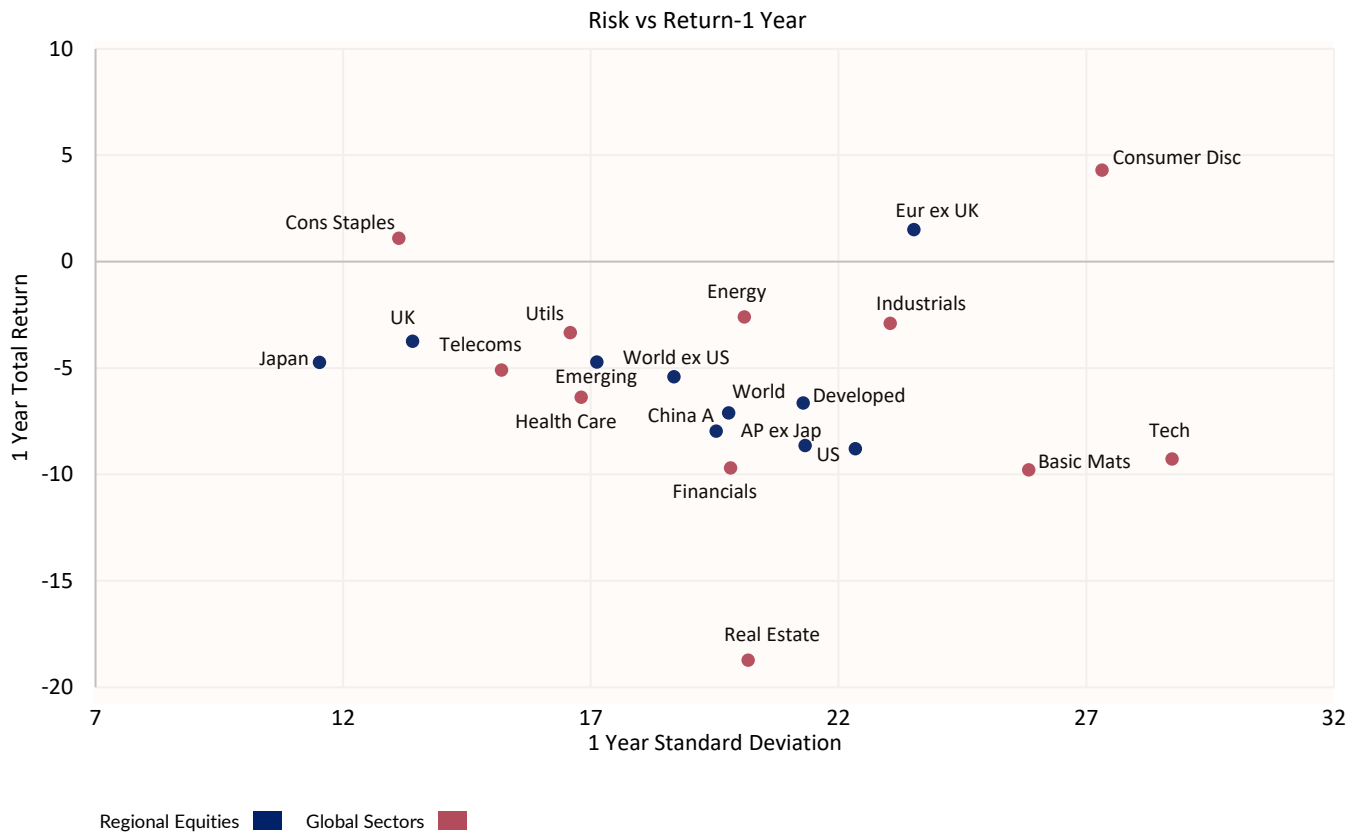
	US	World ex US
Energy	2.8	8.8
Basic Materials	2.0	6.7
Industrials	12.7	13.4
Consumer Staples	4.7	7.1
Health Care	12.2	7.9
Consumer Disc	16.9	14.4
Utilities	2.5	3.6
Telecom	3.1	4.3
Financials	10.9	18.0
Technology	29.1	12.0
Real Estate	3.0	3.7
Total	100.0	100.0

Top 3 Bottom 3

Chart 4: History of top 5 sector weightings in world index (USD)



Risk vs Return: Regional equities and global sectors



Source: Refinitiv. Data as of March 31, 2023

Fixed Income and FX

1

-1.0%

Depreciation in DXY dollar index in Q1

2

-40bps

Decline in US 10 year bond yield in Q1

3

-39bps

Decline in US 2 year bond yield in Q1

4

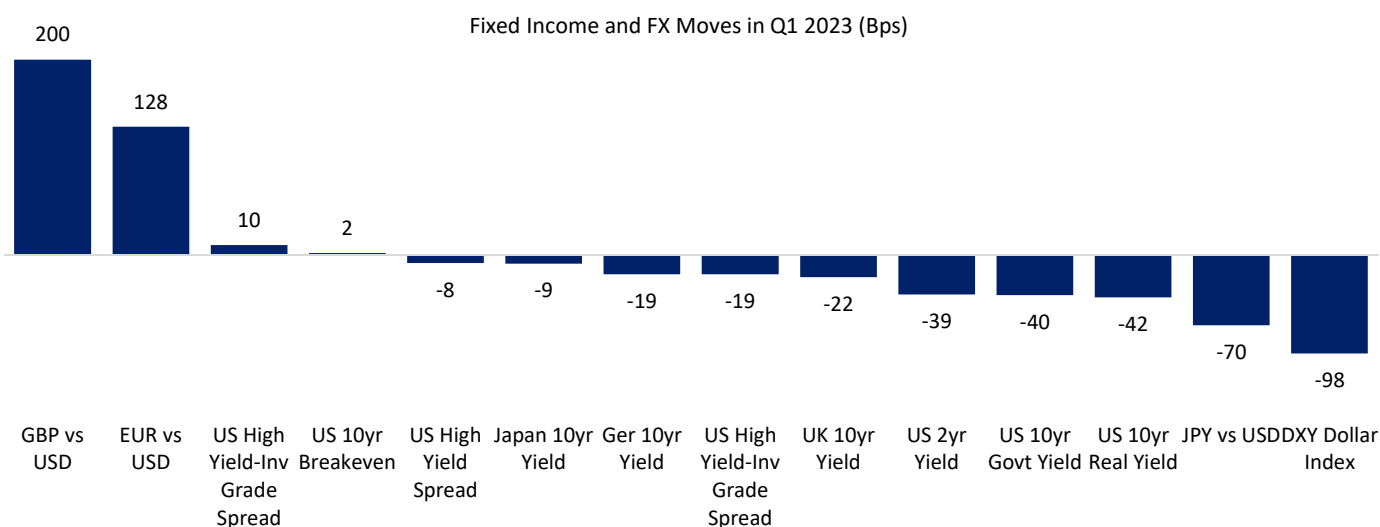
-42bps

Decline in US 10 year real yield in Q1

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- 32 Regional spot rate returns

Moves in FX and bond markets in Q1 2023



Source: Refinitiv and FactSet. Data as of March 31, 2023

Regional fixed income performance summary: Government bonds, Inflation linked and Corporates

Chart 1: 1-3 year government bond returns

USD (TR, %)		1M	3M
Italy (1-3yr)		3.5	2.8
EURO* (1-3yr)		3.4	2.2
UK (1-3yr)		2.7	3.3
Japan (1-3yr)		2.4	0.4
Can (1-3yr)		1.6	1.5
US (1-3yr)		1.6	1.5
China (1-3yr)		1.3	2.0
Aus (1-3yr)		0.8	0.7

Chart 2: 7-10 year government bond returns

USD (TR, %)		1M	3M
EURO* (7-10yr)		5.4	3.9
Italy (7-10yr)		5.2	6.2
UK (7-10yr)		4.8	5.5
Can (7-10yr)		4.7	4.2
Aus (7-10yr)		4.1	5.7
Japan (7-10yr)		4.0	1.8
US (7-10yr)		3.7	3.5
China (3-5yr)		1.4	2.1

Chart 3: Inflation Linked bond returns

USD (TR, %)		1M	3M
UK IL (5-10yr)		6.6	8.0
Japan* IL (5-10yr)		3.8	1.5
EURO* IL (5-10yr)		3.8	4.0
US IL (5-10yr)		3.8	3.9
Italy IL (All)		3.7	5.6
Aus IL (All)		3.6	5.9
Can IL (All)		1.3	-1.5

Chart 4: Investment grade & high yield returns

USD (TR, %)		1M	3M
EURO IG (All)		3.5	3.4
Japan IG (All)		3.1	1.3
UK IG (All)		3.1	5.2
Japan BBB (All)		2.9	1.6
US IG (All)		2.6	3.3
EURO HY (All)		2.1	4.6
UK HY (All)		1.3	6.6
US HY (All)		1.1	3.8

Fixed Income key observations: March saw both short dated and 10 yr bond yields decline on bank contagion fears. Yield curves remain inverted but

Chart 1: Regional 2yr and 10yr yields-Latest, 1m ago and 31 Dec 2022

Regional 2yr and 10yr Govt Bond Yields						
	2-Year Yields (%)			10-Year Yields (%)		
	Latest	1m Ago	31-Dec	Latest	1m Ago	31-Dec
US	4.1	4.8	4.5	3.5	3.9	3.9
UK	3.9	4.0	3.7	3.4	3.7	3.7
Germany	2.7	3.1	2.6	2.3	2.6	2.6
France	2.9	3.2	2.9	2.8	3.1	3.1
Italy	3.2	3.6	3.3	4.0	4.4	4.6
Japan	-0.1	-0.1	0.0	0.3	0.5	0.4
China	2.4	2.5	2.3	2.9	2.9	2.9
Canada	3.8	4.2	4.1	2.9	3.3	3.3
Australia	3.0	3.9	3.3	3.3	3.9	4.0

Chart 2: Regional 10-2yr curves started to steepen in March reflecting the large fall in 2yr yields.



Chart 3: The decline in 10yr yields in Q1 was mainly driven by falls in real yields.

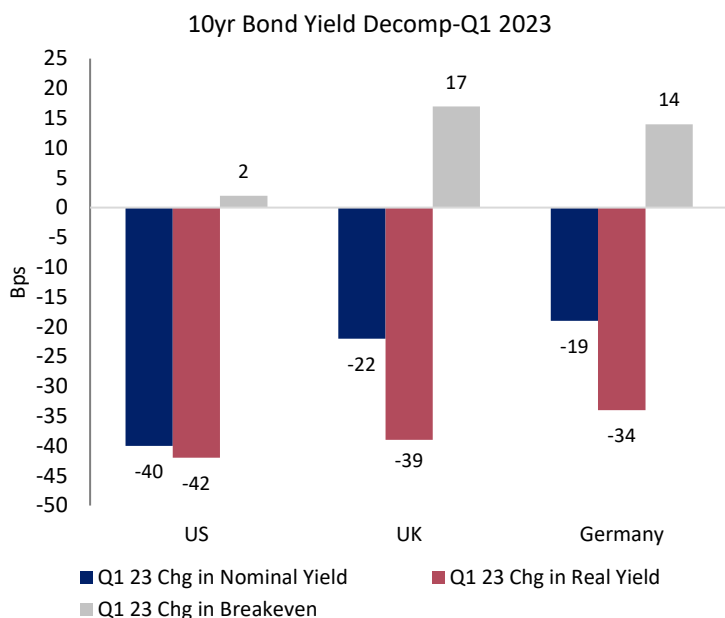
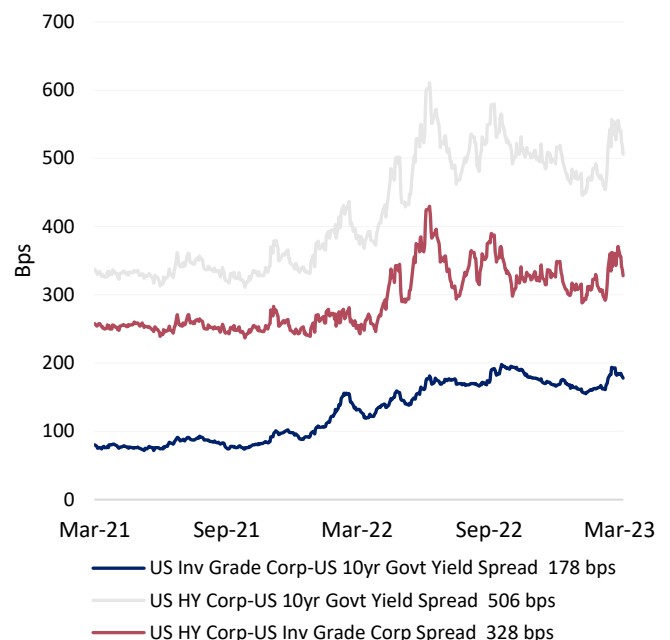


Chart 4: Corporate spreads continue to widen (particularly HY).



FX return perspectives: After rallying in February the dollar subsequently weakened in March leaving it below year end 2022 levels.

Chart 1: DXY Dollar Index weakened in March reflecting deteriorating interest rate differentials

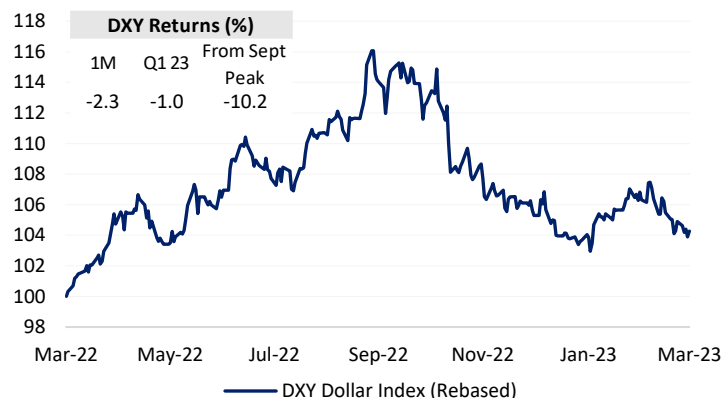


Chart 2: Long term view of the DXY Dollar Index

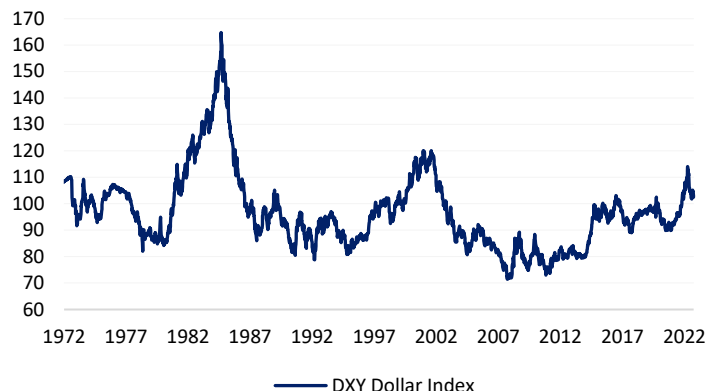


Chart 3: Regional Real Effective Exchange Rate returns-12 months (rebased)

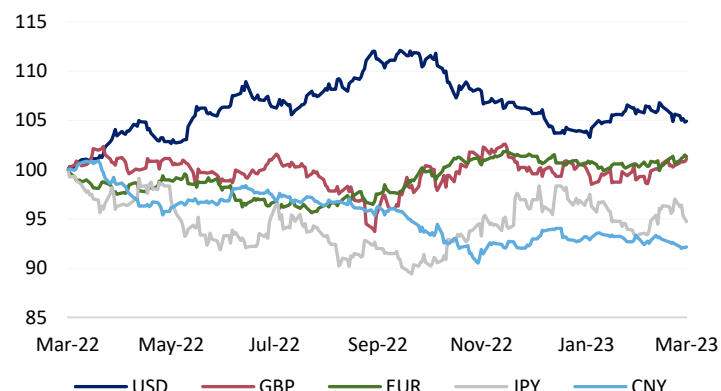


Chart 4: Regional Real Effective Exchange Rate returns over 10 years (rebased)

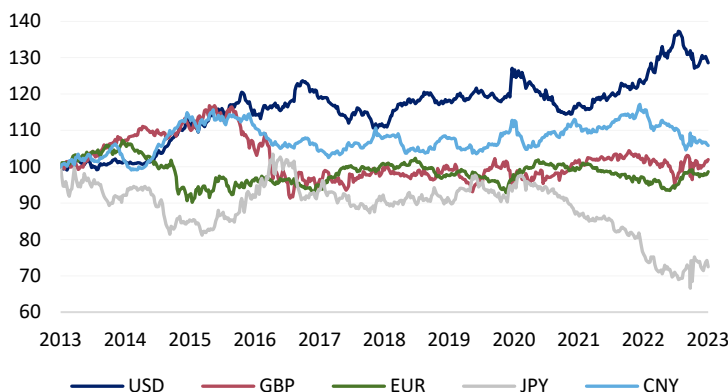


Chart 5: USD returns vs JPY, Euro, GBP and Renminbi spot rate-12 months (rebased)

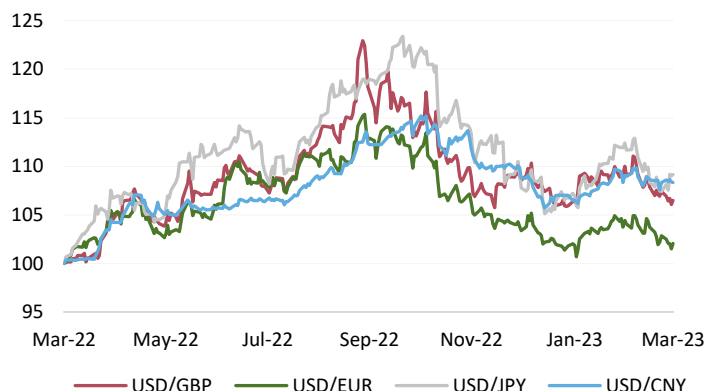


Chart 6: USD returns vs JPY, Euro, GBP and Renminbi spot rate returns over 10 years (rebased)



FX spot rate returns from a regional perspective

The dollar depreciated the most against the Swiss franc and sterling in March. In Q1 the CAD and AUD were the only major currencies that depreciated against the dollar.

Moves vs USD (TR, %)	1M	3M	12M	2022
CHF	3.0	1.1	0.9	-1.3
GBP	2.7	2.0	-6.1	-10.6
EUR	2.5	1.3	-2.0	-5.9
JPY	2.0	-0.7	-8.3	-13.2
CNY	1.2	1.4	-7.6	-8.5
CAD	1.0	0.3	-7.5	-6.8
AUD	-0.6	-1.9	-10.6	-6.2

Moves vs EUR (TR, %)	1M	3M	12M	2022
CHF	0.2	-0.5	3.2	4.9
JPY	0.0	-2.8	-5.5	-7.8
GBP	-0.3	1.0	-3.8	-5.4
CNY	-1.3	-1.3	-5.7	-1.9
CAD	-1.5	-1.0	-5.6	-1.0
USD	-2.5	-1.3	2.0	5.9
AUD	-3.1	-3.0	-8.7	-0.6

Moves vs CNY (TR, %)	1M	3M	12M	2022
JPY	1.6	-1.7	-0.7	-5.0
GBP	1.5	1.4	2.1	-2.5
CHF	1.5	0.9	9.4	7.1
EUR	1.3	1.4	6.1	2.0
CAD	0.0	0.2	-0.2	-1.2
USD	-1.2	-1.4	7.6	8.5
AUD	-1.5	-1.5	-3.2	1.4

Moves vs AUD (TR, %)	1M	3M	12M	2022
EUR	3.1	3.0	8.7	0.6
GBP	2.8	3.9	5.0	-5.0
JPY	2.4	-0.1	2.5	-7.4
CAD	1.6	2.2	3.5	-0.6
CNY	1.5	1.5	3.2	-1.4
USD	0.6	1.9	10.6	6.2

Moves vs GBP (TR, %)	1M	3M	12M	2022
CHF	0.5	-1.5	7.3	10.9
EUR	0.3	-1.0	4.0	5.7
JPY	-0.7	-3.4	-2.9	-3.0
CNY	-1.4	-1.3	-2.0	2.5
CAD	-1.6	-1.7	-1.5	4.3
USD	-2.7	-2.0	6.1	10.6
AUD	-2.8	-3.9	-5.0	5.0

Moves vs JPY (TR, %)	1M	3M	12M	2022
GBP	0.7	3.4	2.9	3.0
CHF	0.3	1.7	10.3	14.3
EUR	0.0	2.8	5.5	7.8
CAD	-1.6	1.6	0.9	6.2
CNY	-1.6	1.7	0.7	5.0
USD	-2.0	0.7	8.3	13.2
AUD	-2.4	0.1	-2.5	7.4

Moves vs CHF (TR, %)	1M	3M	12M	2022
EUR	-0.2	0.5	-3.2	-4.9
JPY	-0.3	-1.7	-10.3	-14.3
GBP	-0.5	1.5	-7.3	-10.9
CNY	-1.5	-0.9	-9.4	-7.1
CAD	-2.0	-0.8	-8.3	-5.5
USD	-3.0	-1.1	-0.9	1.3

Trade Weighted (TR, %)	1M	3M	12M	2022
JPY	3.2	0.1	-2.7	-7.6
EUR	0.5	0.3	0.7	-0.4
GBP	0.3	1.5	-2.3	-4.9
CNY	-0.3	0.1	-4.0	-2.4
DXY	-2.3	-1.0	4.3	7.9
AUD	-2.5	-2.4	-6.3	0.0

Source: Refinitiv. Data as of March 31, 2023

Alternatives: Commodity, digital asset, REITS and absolute return asset categories

1

+8.9%

Appreciation in the gold price in Q1

2

-19.5%

Decline in Energy prices in Q1

3

+13.2%

Return of the Wilshire US Self Storage REIT YTD

4

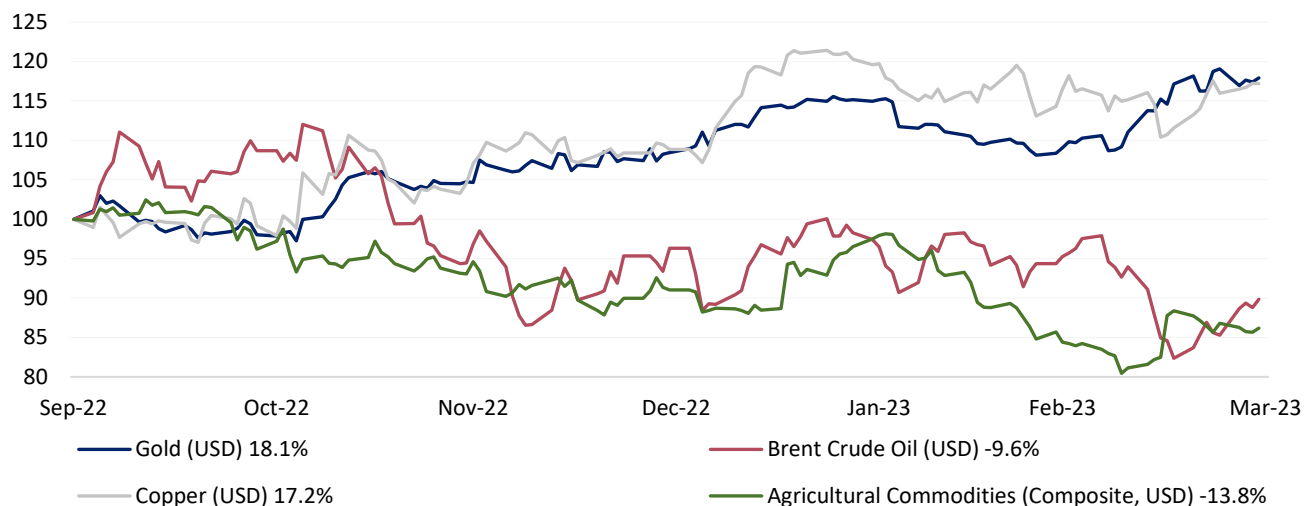
+62.3%

Rise in the FT Wilshire Digital assets index in Q1

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- 34 Commodities
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- 37 Digital Assets
- 38 Risk/return analysis

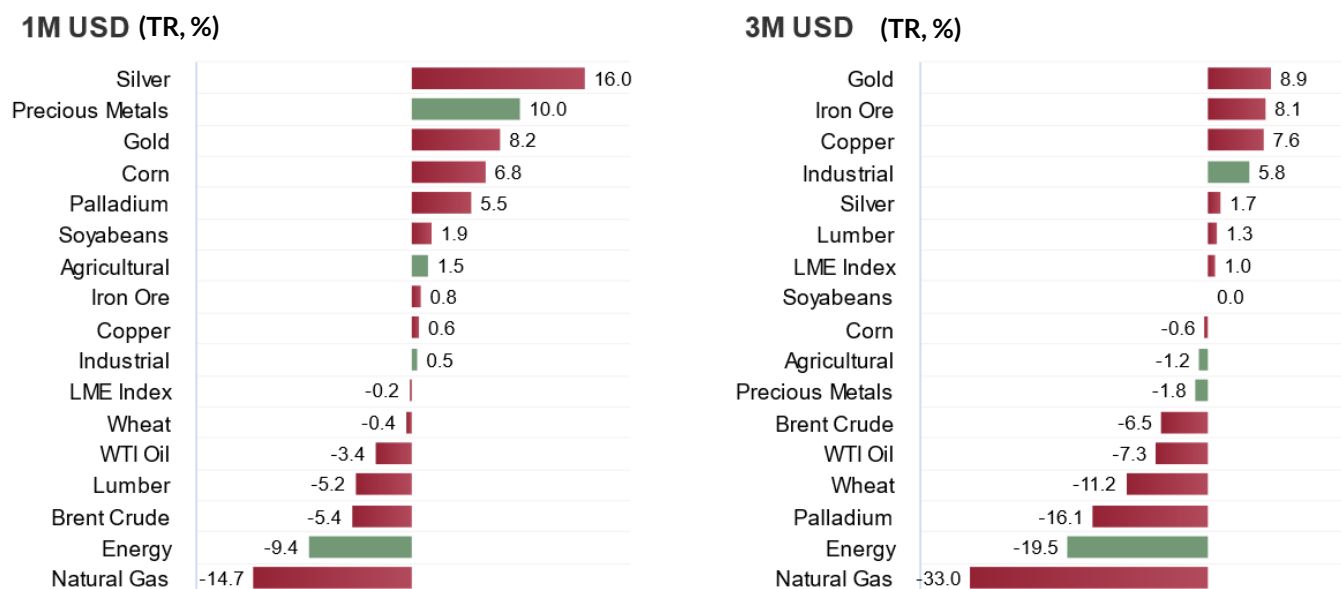
Commodity prices (rebased): Movements over the past 6 months



Source: Wilshire and Refinitiv. Data as of March 31, 2023

Commodities: March saw a safe haven rotation to precious metals (helped by declines in real yields) but also saw significant weakness in energy prices.

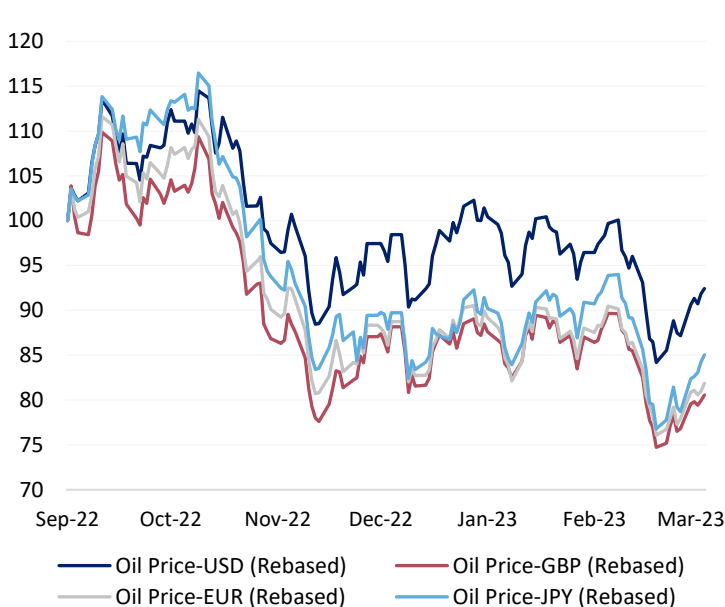
The narrative in the commodity complex post the invasion of Ukraine has rotated from concerns about supply shortage to weakness in demand (driven by recession anxiety) driving commodity prices lower. The Gold price continues to react to shifts in real yields.



Gold vs US real yield (inverted) - the gold price responds to inflections in US real yields



Oil price move adjusted for different FX impact since dollar peak on 27 September 2022



Property (Wilshire REIT indexes): US REITs outperform non-US REITS in Q1 helped by strong performance of self-storage sector

Among US REIT sectors Self Storage delivered the best returns in March. YTD Self Storage and Industrial REITS have posted strong positive returns.

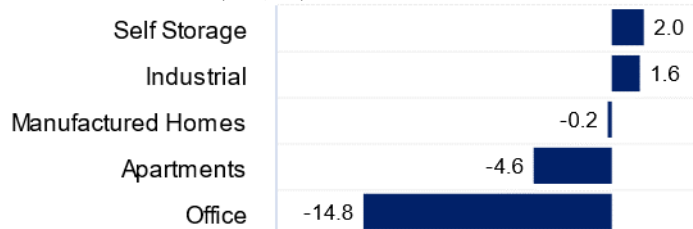
1M USD (TR, %)



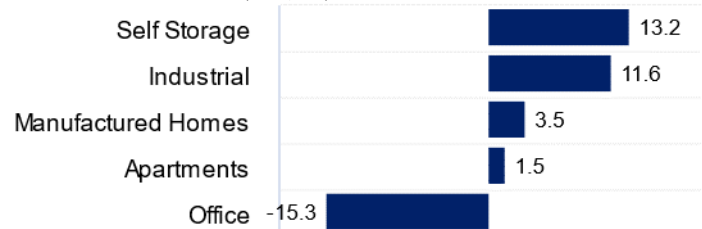
3M USD (TR, %)



1M USD (TR, %)



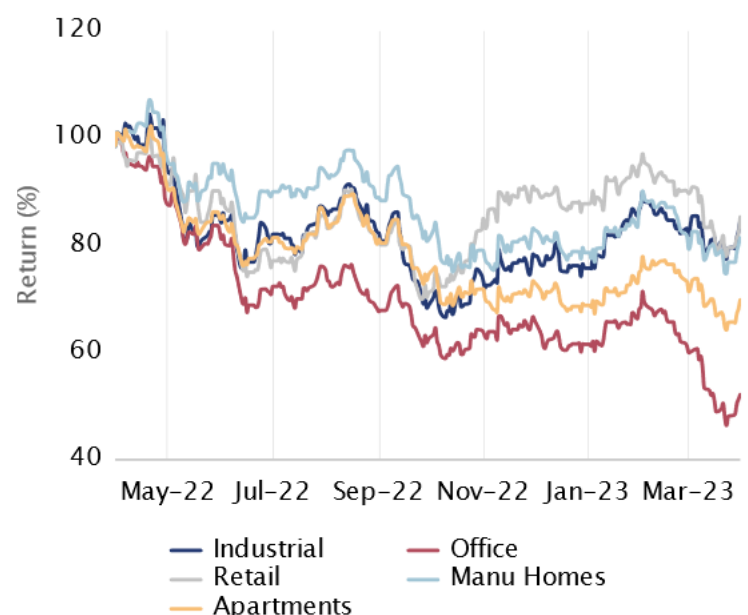
3M USD (TR, %)



Wilshire US REIT vs Global ex US REIT - 12M (Rebased, TR)



Wilshire US REIT sector performance - 12M (Rebased, TR)



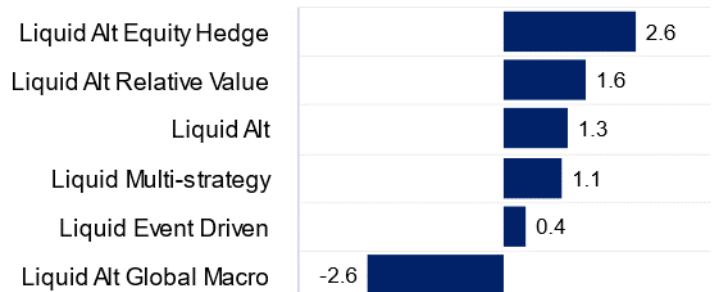
Wilshire Liquid Alternative Indexes (Absolute Return): The Equity Hedge index delivered the best returns in both March and Q1

The Equity Hedge index outperformed the Macro Hedge index (which posted negative returns in March and Q1) over both the month and quarter.

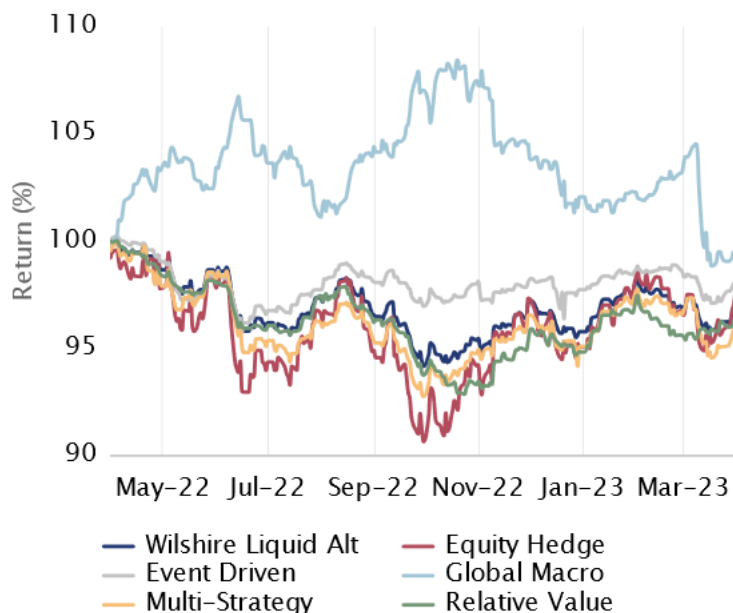
1M USD (TR, %)



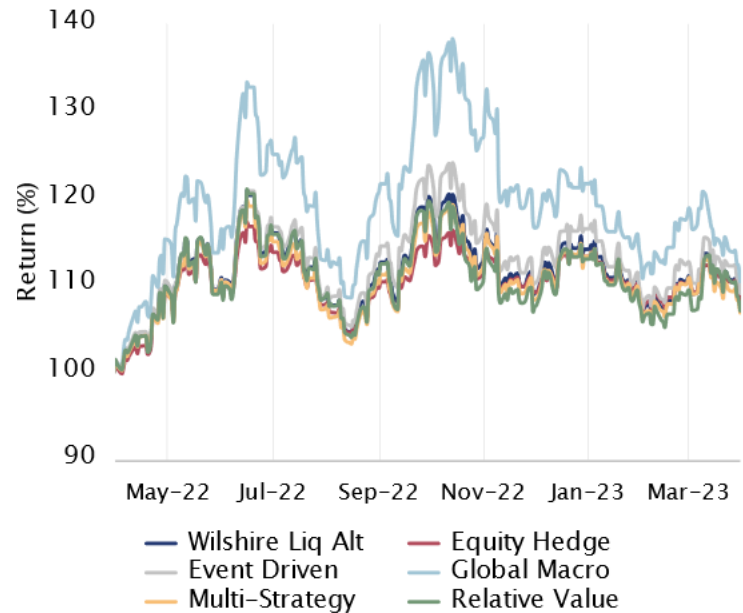
3M USD (TR, %)



Wilshire Liquid Alternative Index performance - total returns (rebased)



Wilshire Liquid Alternative Index relative performance vs FT Wilshire 5000 Index - total returns (rebased)

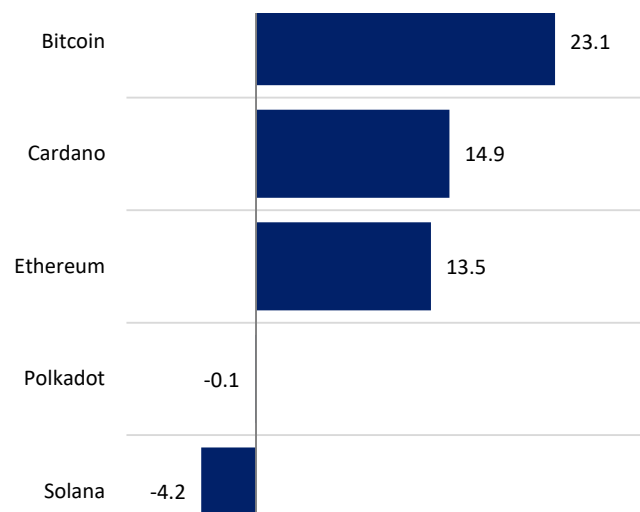


Digital Assets

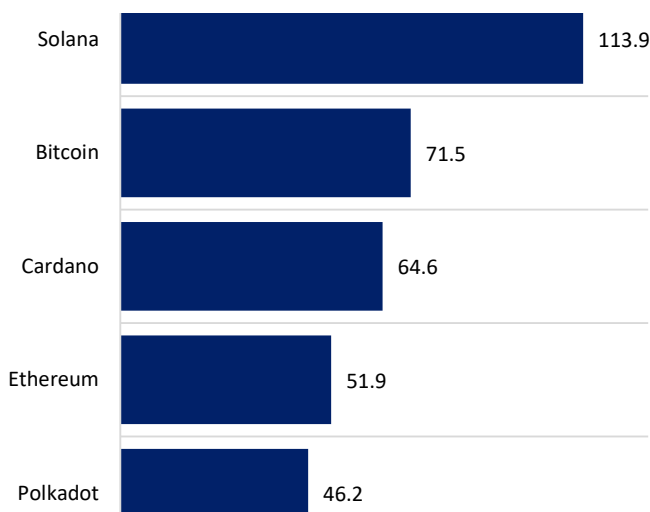
The FT Wilshire Digital Assets Index rebounded strongly in Q1 delivering a return of 62.3%.



FT Wilshire Top 5 Digital Assets Index constituent performance - 1M (% ,USD)

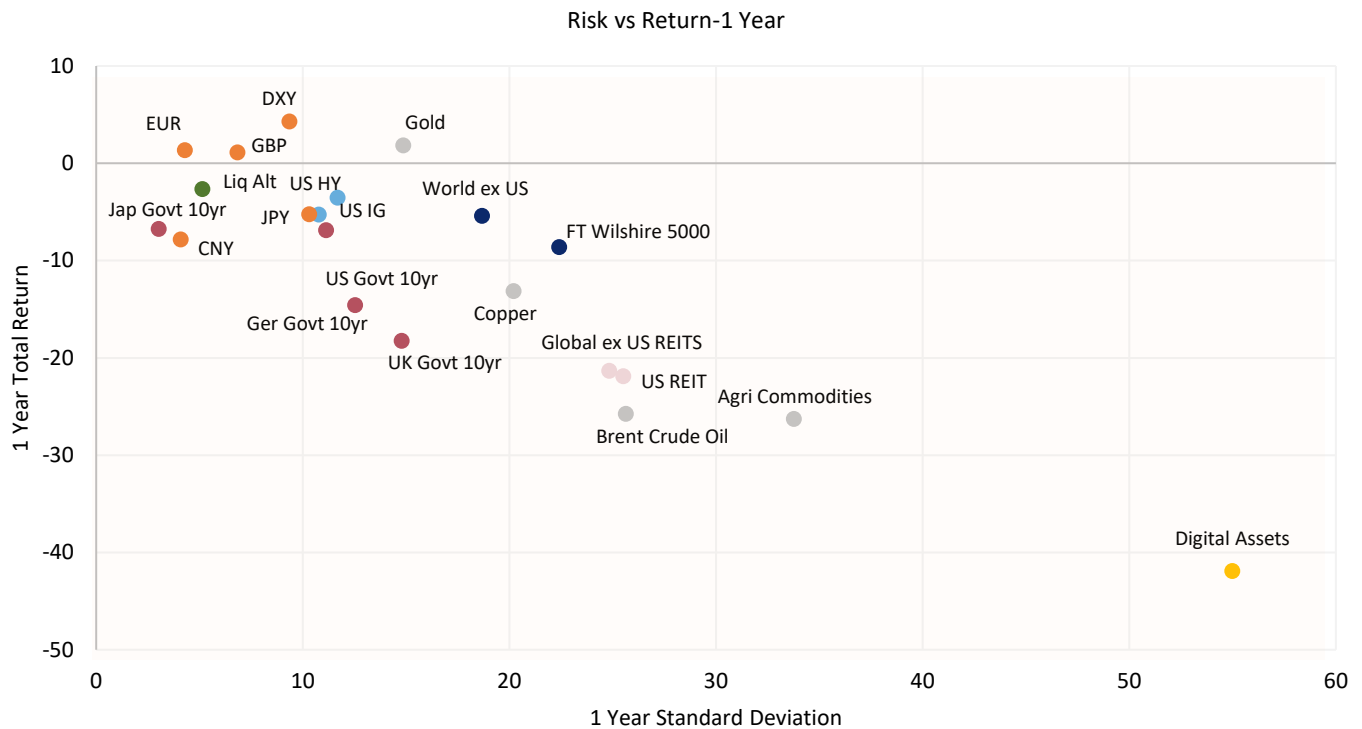


FT Wilshire Top 5 Digital Assets Index constituent performance - Q1 2023 (% ,USD)

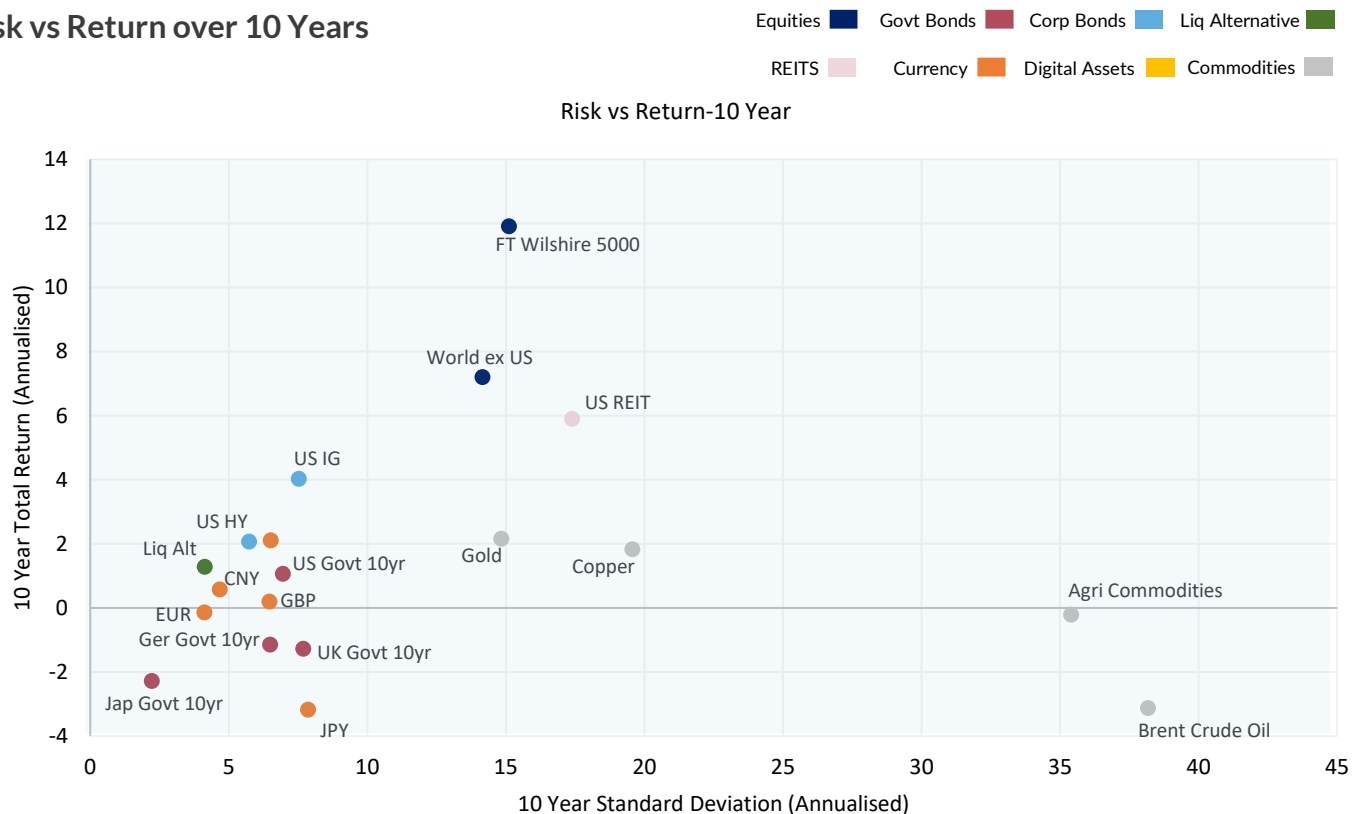


Multi Asset Class: Risk vs Return

Risk vs Return over 1 Year



Risk vs Return over 10 Years



Source: Wilshire, FactSet. Data as of March 31, 2023

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